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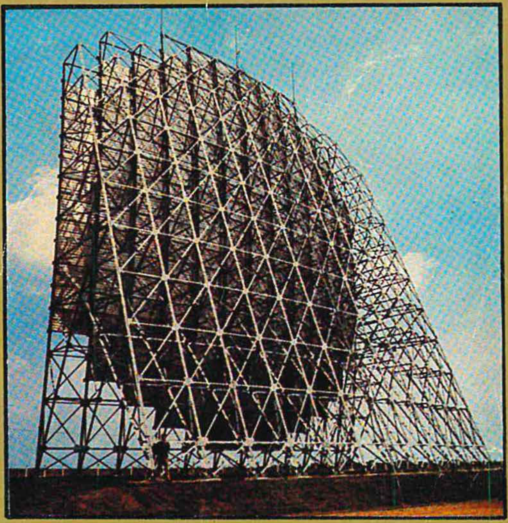
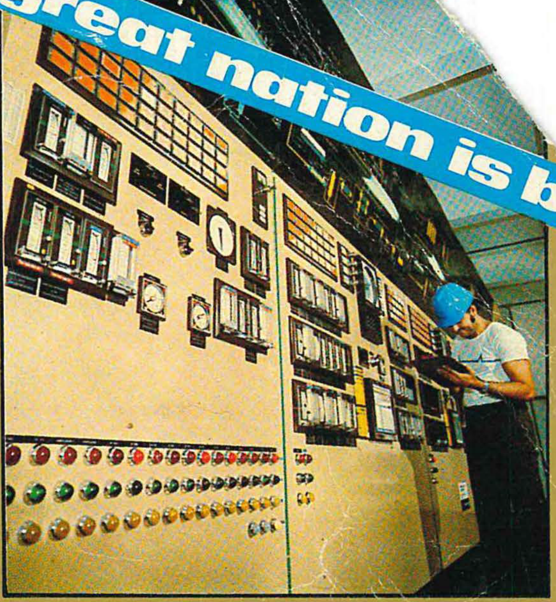
Manchete
RIO DE JANEIRO • 1975 • Cr$ 25,00

SPECIAL

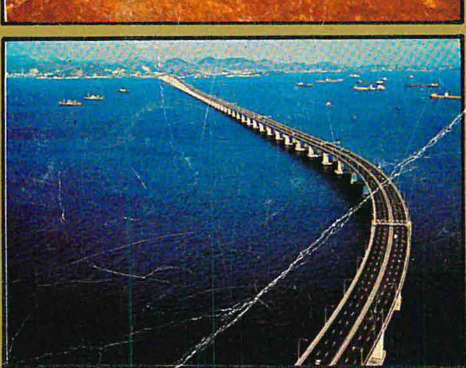
[redacted]

How a great nation is bu



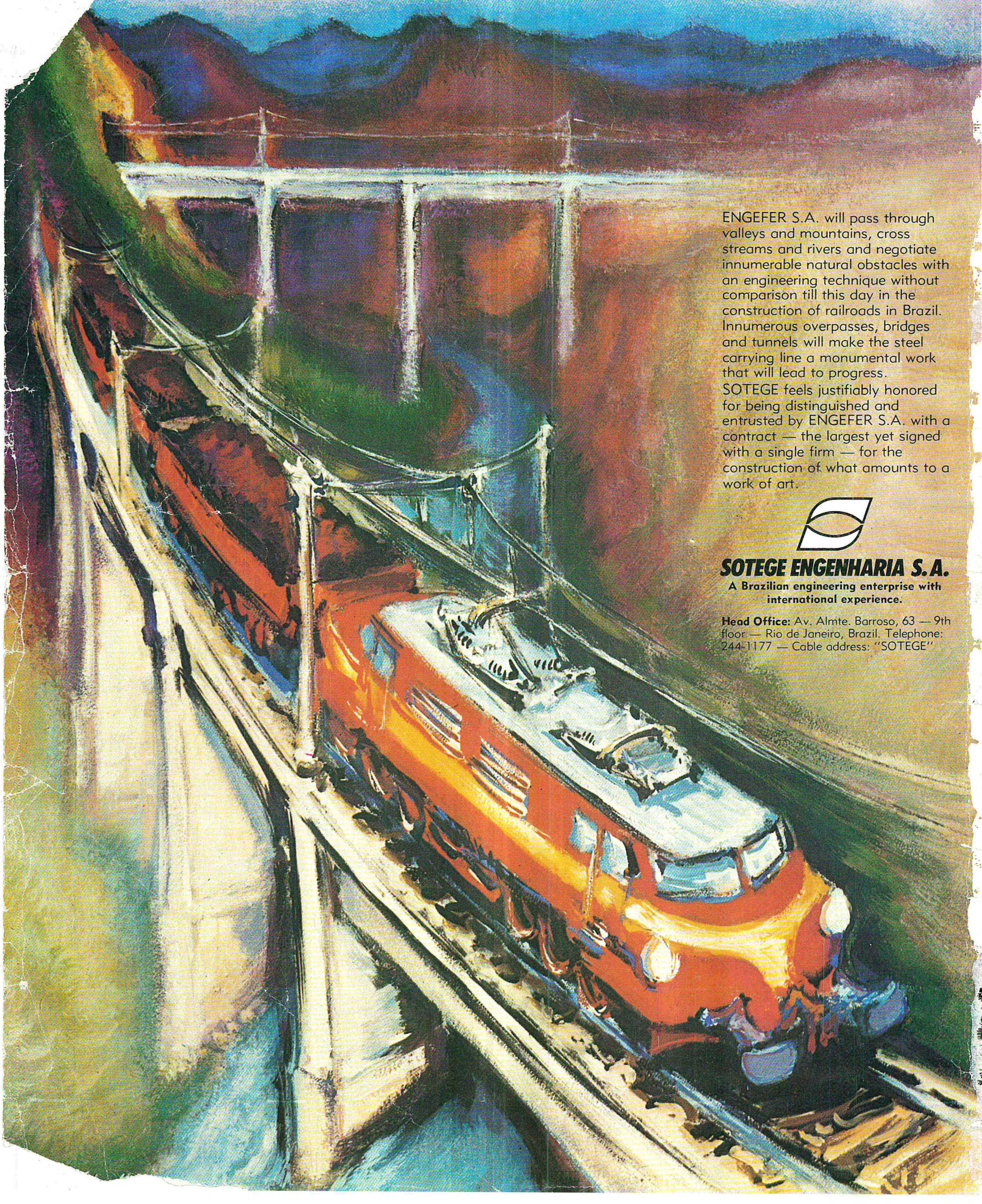


BRAZIL'S FUTURE



1975-1979

HE RAILROAD OF STEEL.



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BRAZIL'S FUTURE

1975-1979

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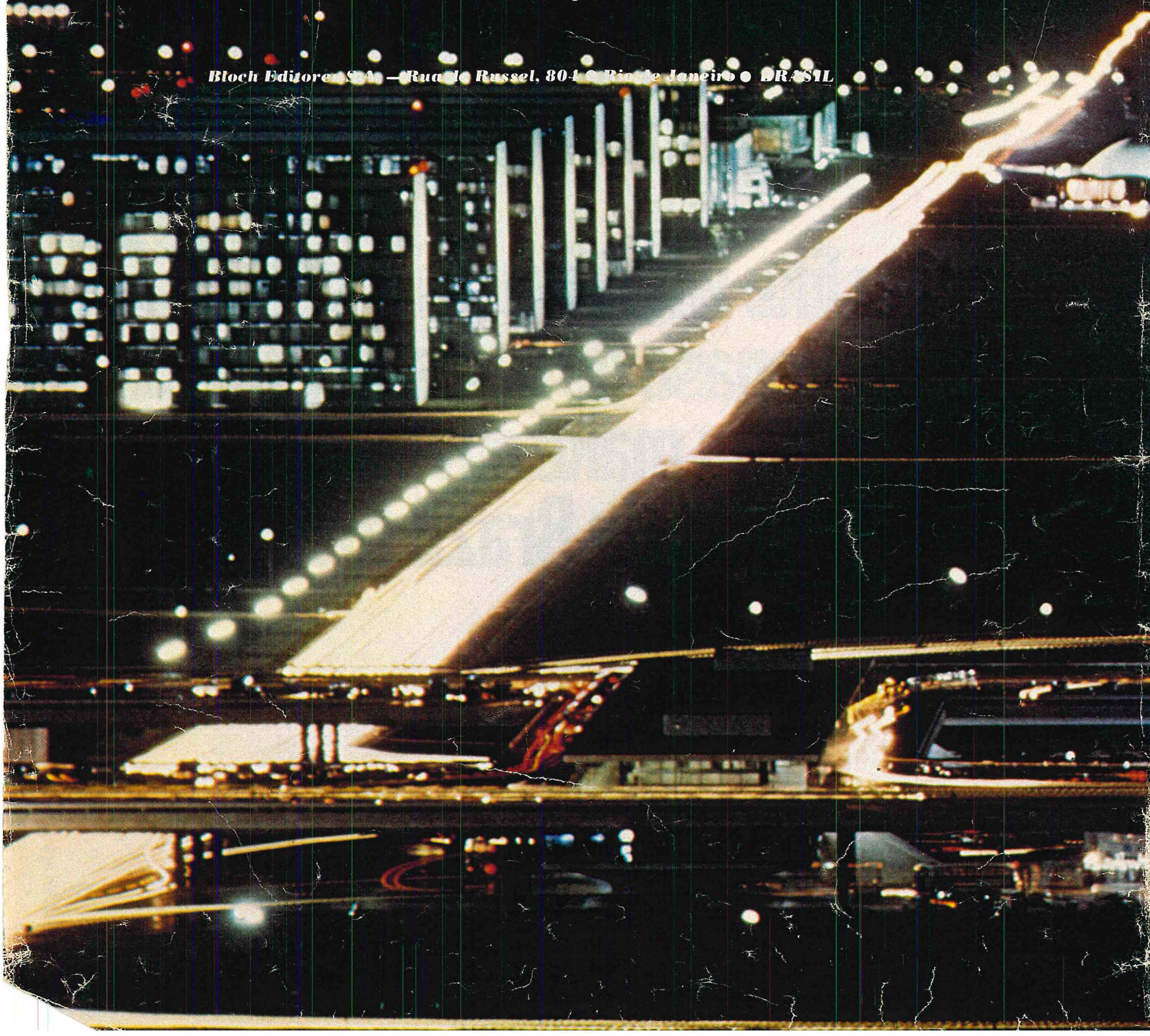

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BRAZIL and its prospects during the next five years are presented on the hundreds of pages that follow. What will Brazil be like five years hence? What are the nation's prospects and possibilities? To what extent could external factors and influences alter Brazil's destiny?

Although predicting the future is a risky science, if it may be called a science, subject to a host of unpredictable circumstances, Brazil's Second National Development Plan, recently launched, is largely based on realistic appraisals and estimates. For, after all, the study and analysis of economics go a long way toward certain definite predictions.

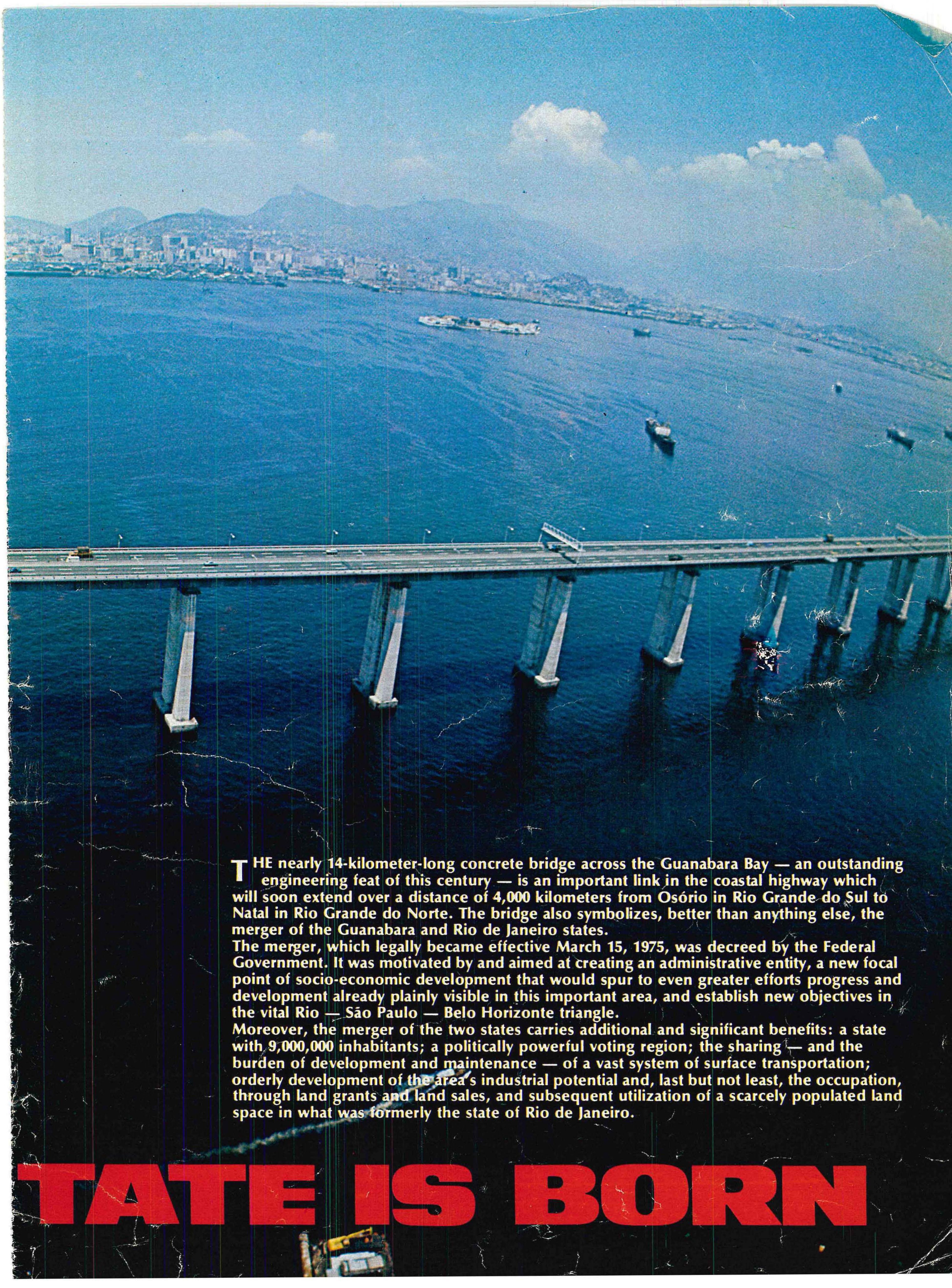
Even without underestimating risks inherent in recurring international crises and situations — risks which must be faced by all — Brazil seems to be fully aware of its potentiality and capability to deal with and overcome internationally posed hurdles with undue delay. Brazil still has wide open spaces for agricultural development, favorable climatic conditions and incalculable natural resources.

Brazil of the future — Brazil whose destiny is being shaped and molded today — has every reason to look forward to the coming years with confidence, as may be seen by pursuing the pages that follow.

MURILO MELO FILHO

STATES MERGE

A SUPER-S



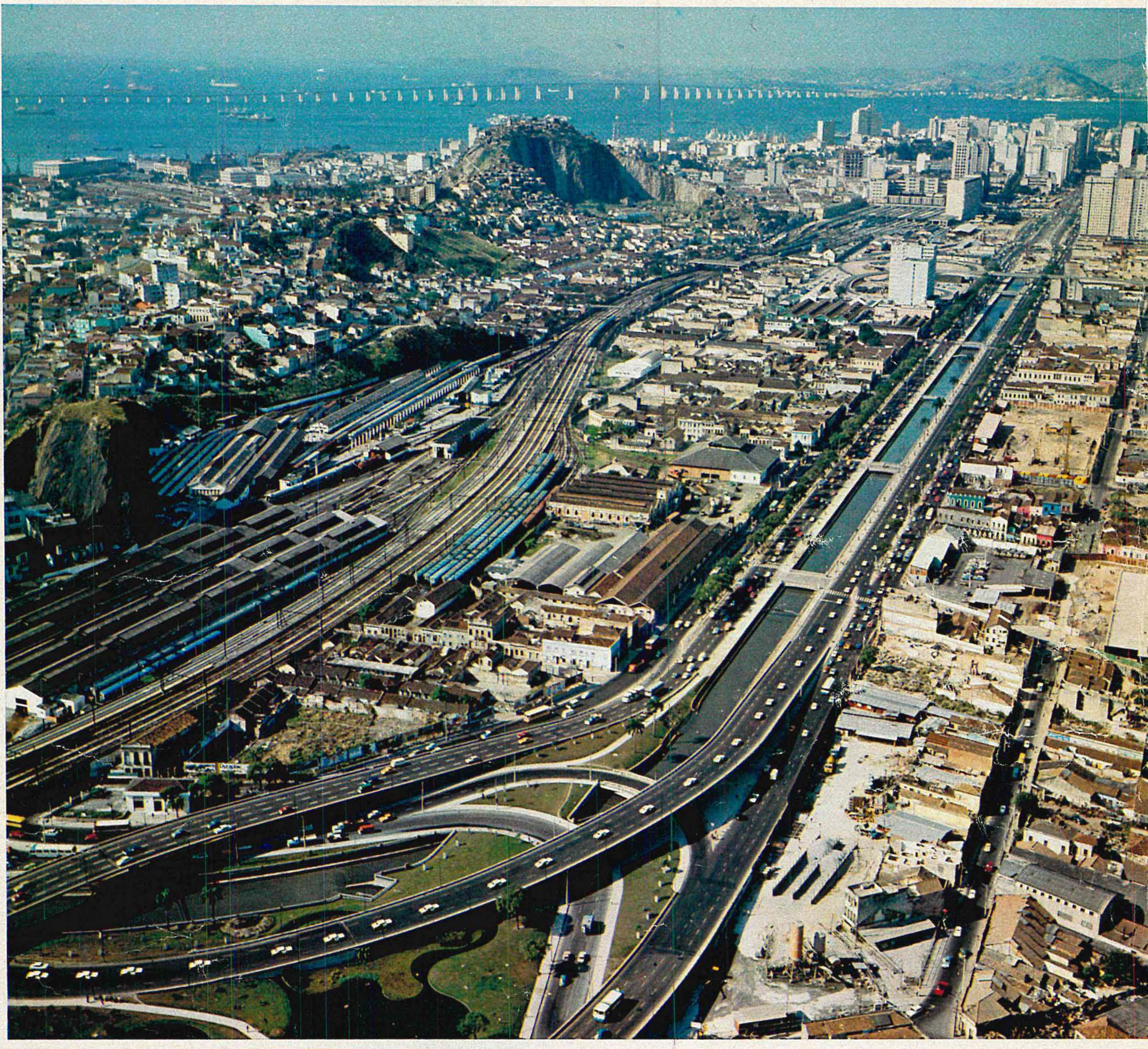
TATE IS BORN

THE nearly 14-kilometer-long concrete bridge across the Guanabara Bay — an outstanding engineering feat of this century — is an important link in the coastal highway which will soon extend over a distance of 4,000 kilometers from Osório in Rio Grande do Sul to Natal in Rio Grande do Norte. The bridge also symbolizes, better than anything else, the merger of the Guanabara and Rio de Janeiro states.

The merger, which legally became effective March 15, 1975, was decreed by the Federal Government. It was motivated by and aimed at creating an administrative entity, a new focal point of socio-economic development that would spur to even greater efforts progress and development already plainly visible in this important area, and establish new objectives in the vital Rio — São Paulo — Belo Horizonte triangle.

Moreover, the merger of the two states carries additional and significant benefits: a state with 9,000,000 inhabitants; a politically powerful voting region; the sharing — and the burden of development and maintenance — of a vast system of surface transportation; orderly development of the area's industrial potential and, last but not least, the occupation, through land grants and land sales, and subsequent utilization of a scarcely populated land space in what was formerly the state of Rio de Janeiro.

AS of March 15, 1975, the states of Guanabara and Rio de Janeiro reverted, as in the days of Tamoio Indians, to the status of "one land peopled by only one nation"



The merger coincided with a number of important public works that had been launched earlier in Guanabara, works that affect the entire urban area, especially a series of new and impressive elevated highways.
The 15 municipalities adjacent to the Guanabara Bay have a population of six million.

THE presidential message of June, 1974, which had proclaimed the merger of the states of Guanabara and Rio de Janeiro, included a special reference to the Metropolitan Area of Rio. This area will include the former State of Guanabara, as well as Niterói, Caxias, Nova Iguaçu, São Gonçalo, São João de Meriti, Maricá, Magé, Petrópolis, Nilópolis, Paracambi, Itaboraí and Itaguaí, formerly within the State of Rio, now municipalities within the merged entity.

This metropolitan area benefits from coordinated projects, such as concern improved water and sanitary engineering services and the entire transportation system, considered essential for the 13 municipalities. According to the introduction to the presidential message, the merger of the two states signified, through envisaged changes and a process of modernization, the actual phase of progress and modernization now affecting all of Brazil, without, however, in any way injuring the nation's true face and characteristics. The merger, therefore, must be viewed as a strictly positive move in the right direction, not merely an effort to create a larger administrative area. The merger of the two states, moreover, was designed to provide for a more rapid rate of development of an integrated area than was possible for each state separately.

As of March 15, 1975, when the merger became legally effective under Admiral Faria Lima as the first governor of the new entity, Guanabara and the State of Rio reverted to the old status under the Tamoio Indians, that of "one land and one nation."

AFTER the merger, the new state is expected to yield 17% of the national income, with every promise of this percentage rising considerably during the next five years

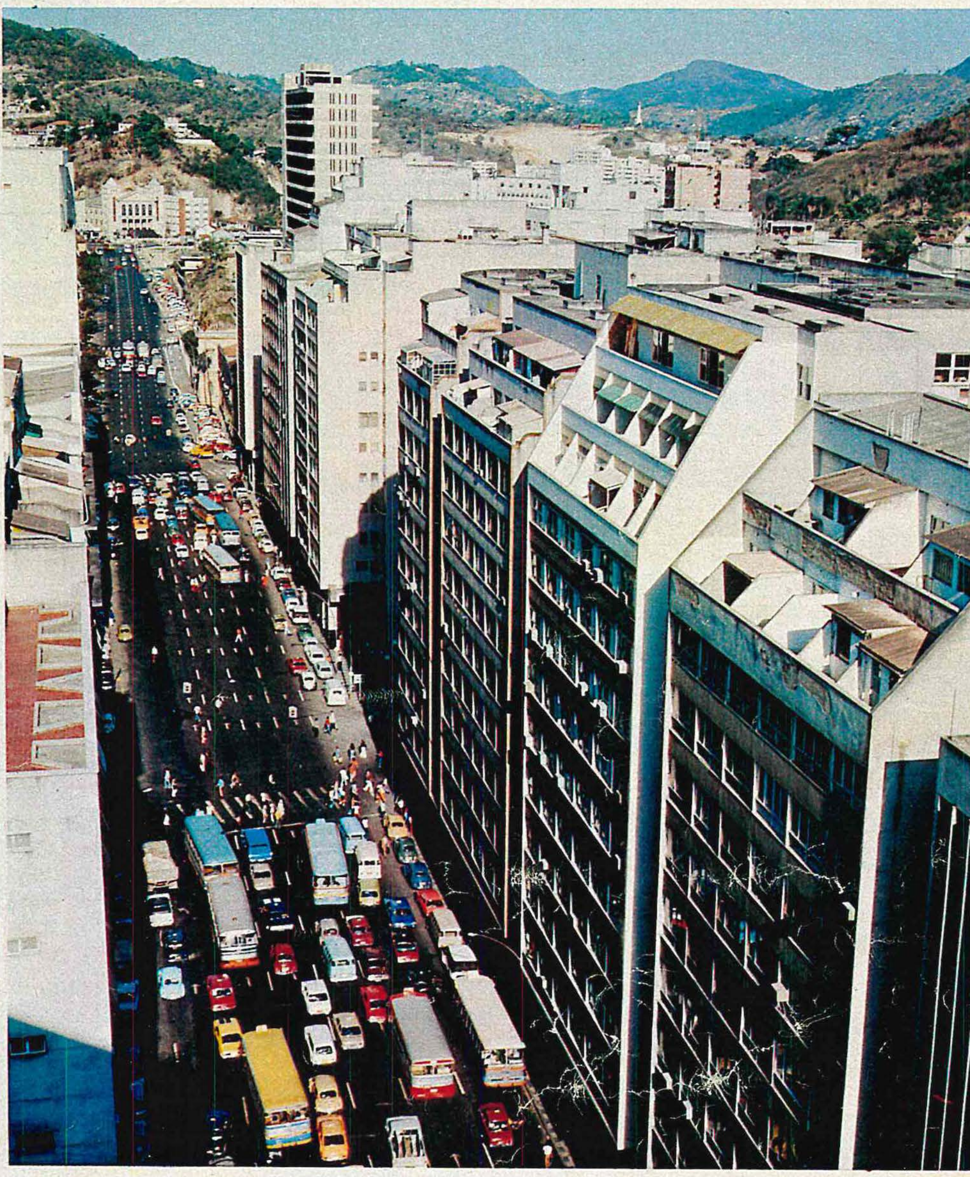
WITH an area of only 0.01% of the overall area of Brazil, Guanabara was responsible for about 13% of the national income. After the merger, Guanabara (Ipanema in the photo) and the State of Rio will contribute at least 17% to the national income, with every indication that this figure will improve steadily during the first five years of the existence of the new federal entity. The State of Rio, during the past 15 years, demonstrated profound changes in its economic structure. From a predominantly agrarian economy, it developed its own considerable industrial establishment.

NITERÓI became one of the most important cities of the new state. The city administration's major emphasis at present is on improved water supply and sewerage services.

THE principal advantage of the merger of Guanabara and the State of Rio, in economic terms, is, undoubtedly, the integration of contributing factors toward economic growth and production. In Guanabara, attention was focused on urban services in detriment to other areas and geo-economic aspects surrounding the city. While Guanabara was a source of capital supply, advanced technology and a qualified work-force, Niterói provided basic industries but lacked sufficient capital for the expansion and modernization of its industrial enterprises. An example: the National Motor Factory (Fábrica Nacional de Motores) existed for a long time but never had a facility to produce spare parts.

The assets of the merged states consist, among other things, of 17,500 kilometers of federal, state and municipal roads; 2,058 kilometers of railroads and a "super-sonic" airport. Before 1976, the Metropolitan Area of Rio will have the largest university center of Brazil. The merged states became the second-largest producers of oranges, tomatoes, salt, pig iron and steel; and the first nuclear power plant of Brazil is under construction in this vital area (in Angra dos Reis), as well as Latin America's largest and foremost ship-building yards.

Resulting from the merger of Guanabara and the State of Rio, the inhabitants of the new unit will be — and already are — producing the nation's second largest volume of industrial and economic products. The new state still remains in the ninth place in agricultural production and fourth in cattle raising and meat produce.



THE City of Rio de Janeiro became, after the merger, the capital of the nation's second-richest state.

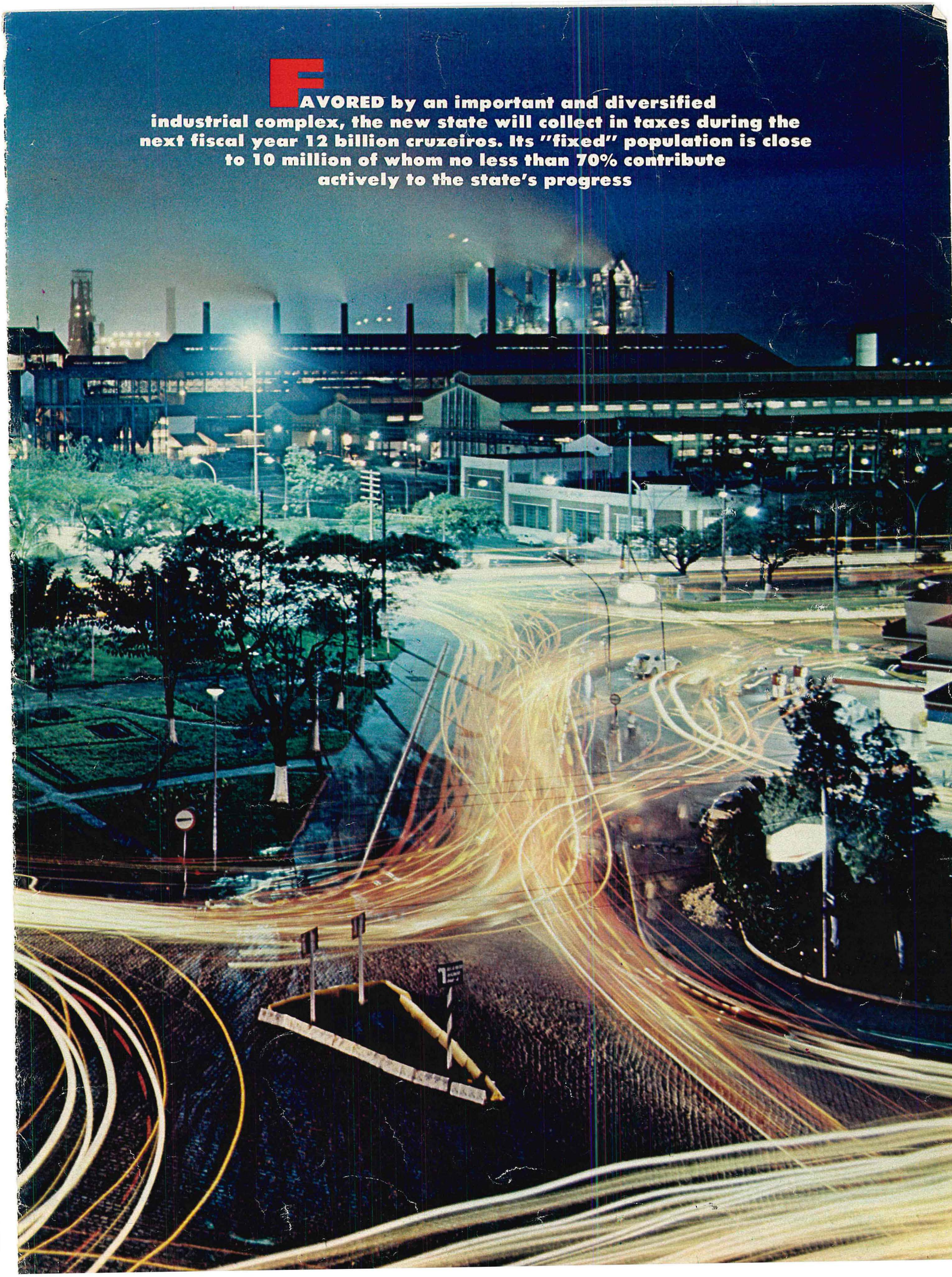
THE City of Rio de Janeiro (Copacabana and Ipanema in photos) became a state capital with the nation's highest per capita rate of income, superceding that of São Paulo. The merger produced natural integration, anticipated for some time, between two areas with distinct characteristic and economic outlines. Greater Rio has become a major consumer center, supplied by the former State of Rio, traditionally a producing area.

THE new State of Rio de Janeiro and São Paulo became Brazil's leading financial and economic centers

THE new State of Rio de Janeiro now represents about one tenth of Brazil's total population, 15% of the NGP, 13% of industrial output, 19% of the nation's public services, 24% of all bank deposits and 10% of national treasury receipts. As envisaged in the presidential message which had decreed the merger, the new state would assume, together with São Paulo, national leadership, with a per capita income of 150% over and above the nation's average.

Volta Redonda, also known as the City of Steel, is the nation's metallurgical center and an important industrial site of the merged states.

FAVORED by an important and diversified industrial complex, the new state will collect in taxes during the next fiscal year 12 billion cruzeiros. Its "fixed" population is close to 10 million of whom no less than 70% contribute actively to the state's progress

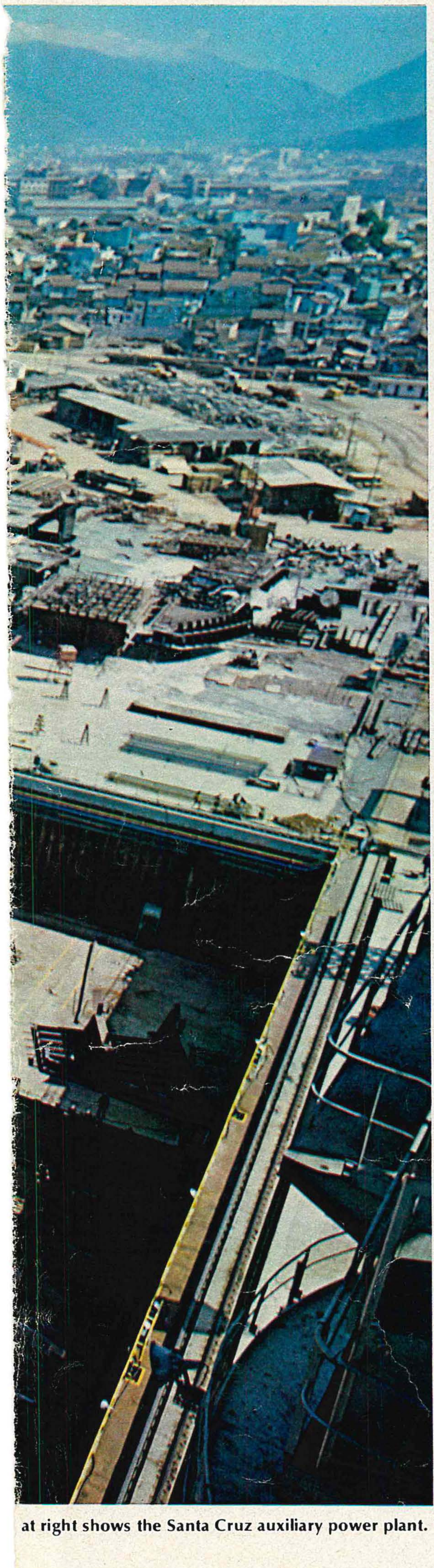


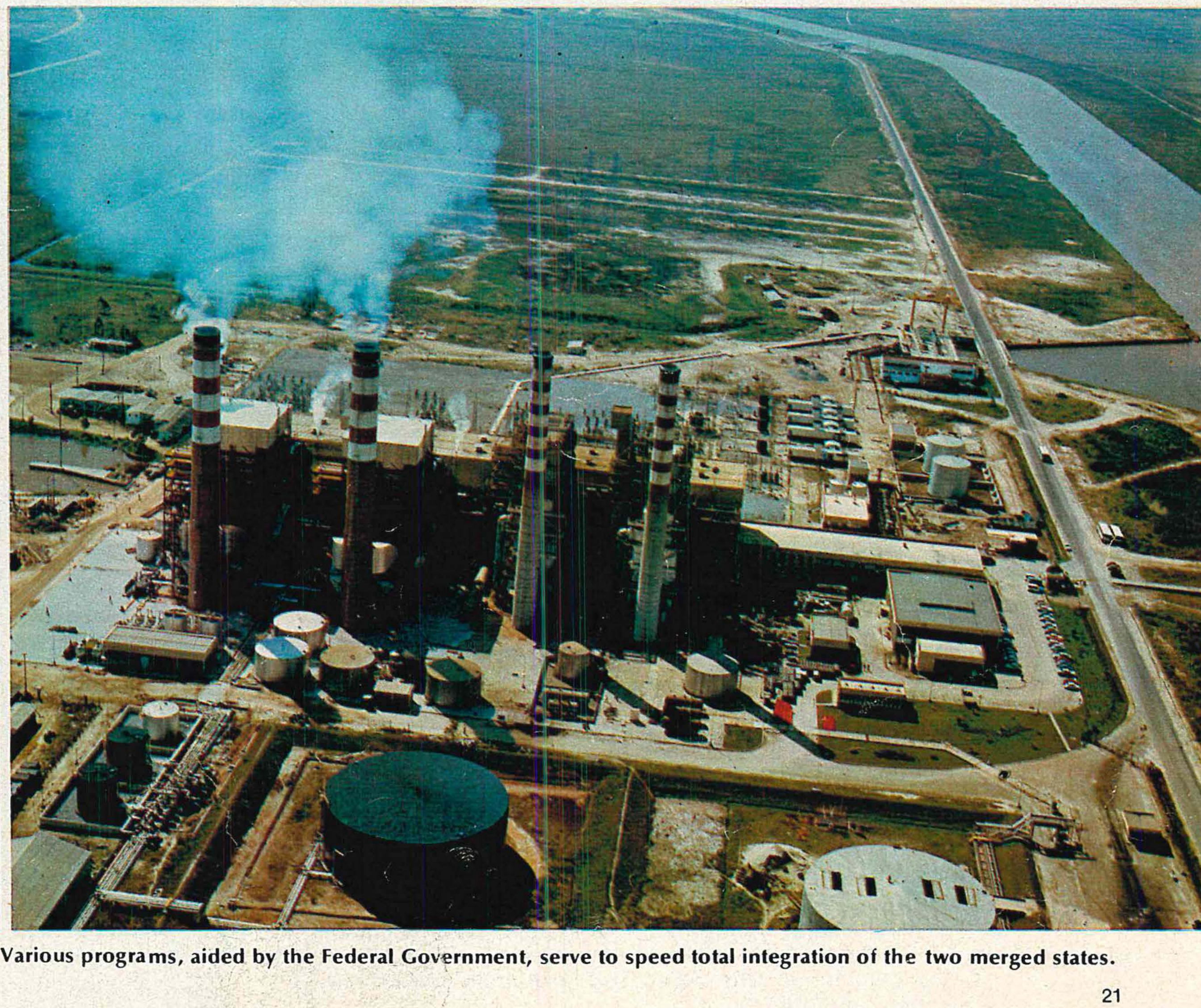
THE first government of the new state, even before it took over on March 15, 1975, pledged to dedicate itself to priority programs for economic, industrial and agricultural development

WITH the merger, Guanabara and the State of Rio reverted to political and geographic situation which had prevailed, uniting the two areas, until 1834. The Guanabara Bay was always considered the heart of the two states to be linked one day, as predicted by Brazil's greatest literary figure Machado de Assis, by a bridge — not merely to abridge the two areas politically, but to actually unite them through a concrete and steel structure.

The larger picture shows Ishibrás Shipyard, with the Port of Rio in the background. The port facilities are being constantly enlarged and improved. Lower picture

In his message accompanying the merger decree, President Geisel emphasized the federal government's firm determination to assist in every way the new state — particularly with fiscal assistance — in its development efforts. This special financial assistance takes shape in: 1) The Integrated Metropolitan Development Plan which includes all basic public services and in support of which a special fund has been set up; 2) A Special Project for Prevention of Air and Water Pollution, with special attention being paid to the Guanabara Bay, the beaches and the Paraíba river; 3) Priority plans for economic, industrial and agricultural development, including areas heretofore unexplored and without utilization; 4) Special Plan for Better Utilization of the Bay of Guanabara shoreline, elaborated and coordinated with the Ministry of Transport and the federal Secretariat of Economic Planning.





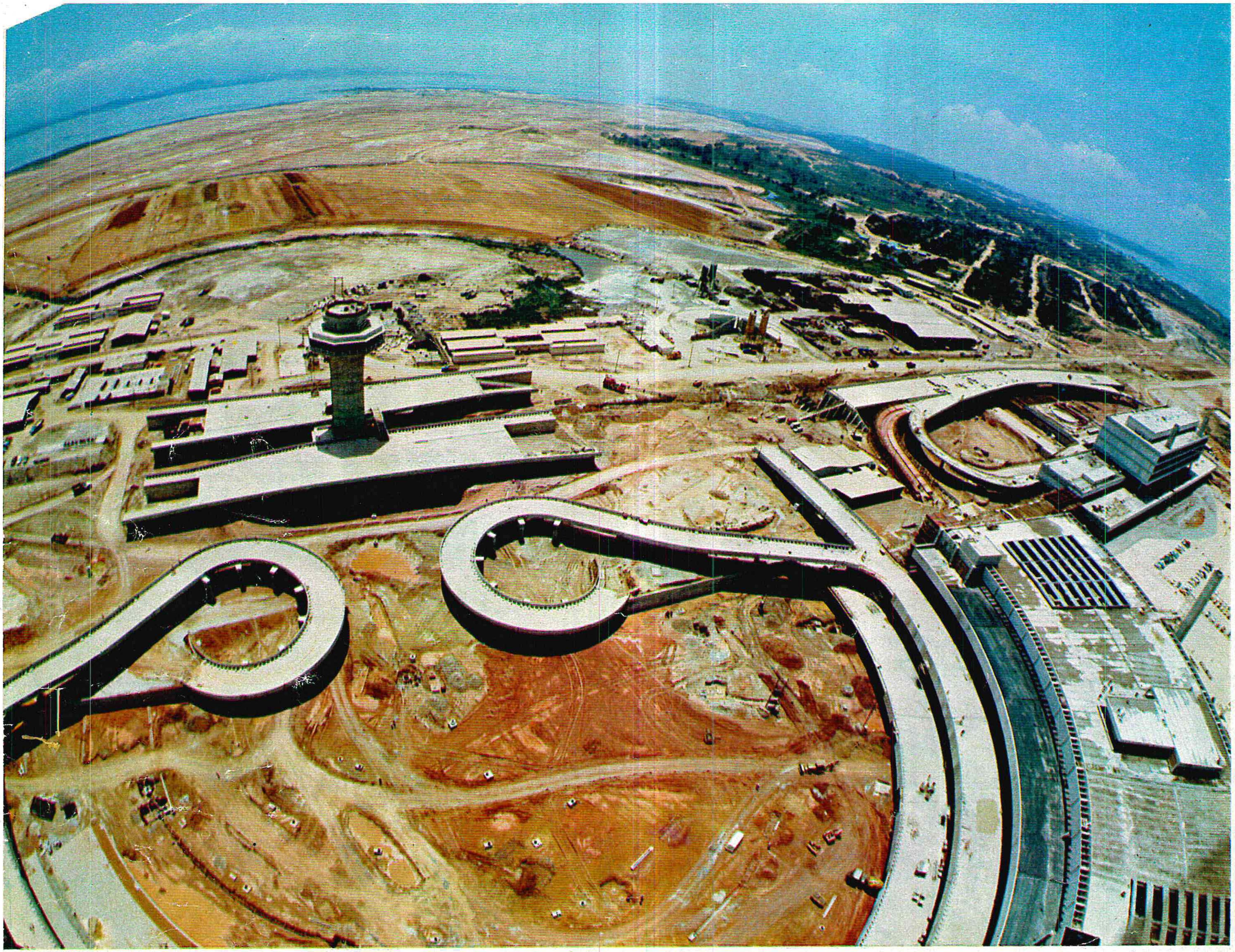
at right shows the Santa Cruz auxiliary power plant. Various programs, aided by the Federal Government, serve to speed total integration of the two merged states.

Even before the merger, Guanabara and the State of Rio already had a splendid network of highways (above and right: the Rio—Petrópolis highway) which in the next few years will total 20,000 km. The former State of Rio still has some 40% of its area available for future utilization.

THE merger became effective, for practical purposes, as soon as the former states of Guanabara and Rio were ready to embark upon major development programs

IN 1973 trade and commerce in Guanabara paid 35% more in sales taxes than during the previous year. Total federal treasury receipts from all types of taxes in that year represented 23% of the total for all Brazil, a percentage superceded only by São Paulo which contributed 48.22% of the total. Likewise, Guanabara was a runner-up in income tax with 28%, second only to São Paulo.

The former State of Rio, on the other hand, already had an important and expanding industrial establishment, including the National Motors Factory, the National Steel Company, Duque de Caxias Oil Refinery, the largest and most important refinery of Petrobrás, and others.



It is estimated that by the end of the century the Galeão International Airport (above) will handle annually up to 10 million passengers. Below is seen the enormous antenna of EMBRATEL, in Itaboraí.

THE new Galeão International Airport (called Rio's "super-sonic" airport) will be one of the largest and most modern in the world

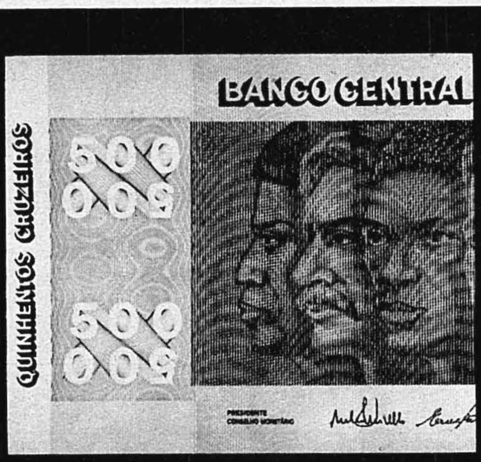
IN this year of 1975 the new State of Rio de Janeiro will have one of the two most modern and important airports in Brazil (the other one is under construction in Manaus) in service. Also, in the field of communications, the Tanguá Station will vastly multiply Brazil's facilities to keep in touch with the world. This important transmitting station will enable the Brazilian State Telecommunications Company (EMBRATEL) double its technical facilities and services with the construction of a second receiving and transmitting system, via satellites.

Greater Rio — Guanabara, and the State of Rio counties Niterói and São Gonçalo — are currently the nation's second-largest consumer markets.

The former State of Rio already was self-sufficient in dairy produce, yielding annually 300 million liters of milk, roughly five per cent of the national total. Guanabara total milk consumption always was supplied by the State of Rio. The plains of the former State of Rio also produce sugar cane in quantity, as well as tomatoes, rice, oranges, sorghum, black beans, corn and pineapple. Recently, South America's largest chicken dressing plant was inaugurated in Resende. Dressed birds are already being exported to Japan.

Because of its excellent climatic and soil conditions, the former State of Rio always had the most favorable factors for agricultural exploitation. Within its area, 39 of the 50 principal cultures of Brazil are being cultivated. The state, which has now been merged with Guanabara, also possessed an important fish canning industry. This industry has traditionally attracted sizeable capital investment and has been a large employer of manpower. The area also has ample power generating resources. The presidential message, which accompanied the merger decree, emphasized that "by uniting the formerly two independent states, the government was guided by the resources of both in order to strengthen the new state."

We don't seem to find the words to tell you all we've done over these 46 years in Brazil. But we do have the figures.

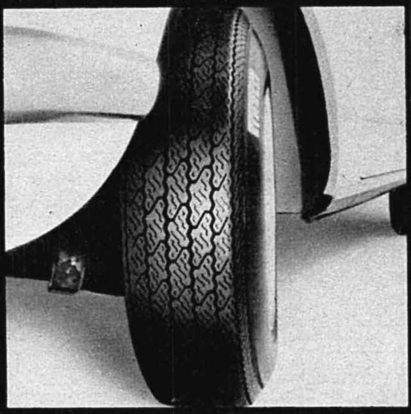


Billing in 1974: US$ 477,000,000

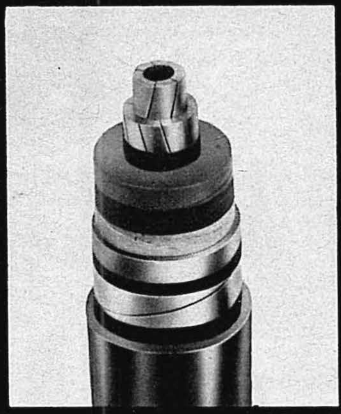
11,770 employees

2 rubber plantations

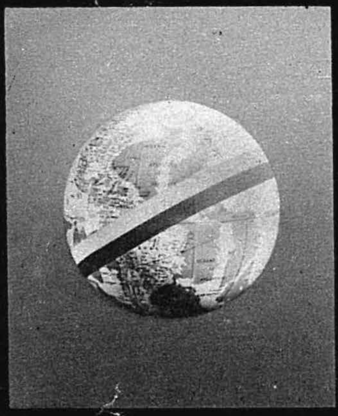
7 tire and electric cable plants in operation plus 5 new plants under construction



11 branches and 6 distributors in the tire division



13 branches, 2 distributors and 13 representatives in the cable division



Our tires and cables are being exported to 59 countries

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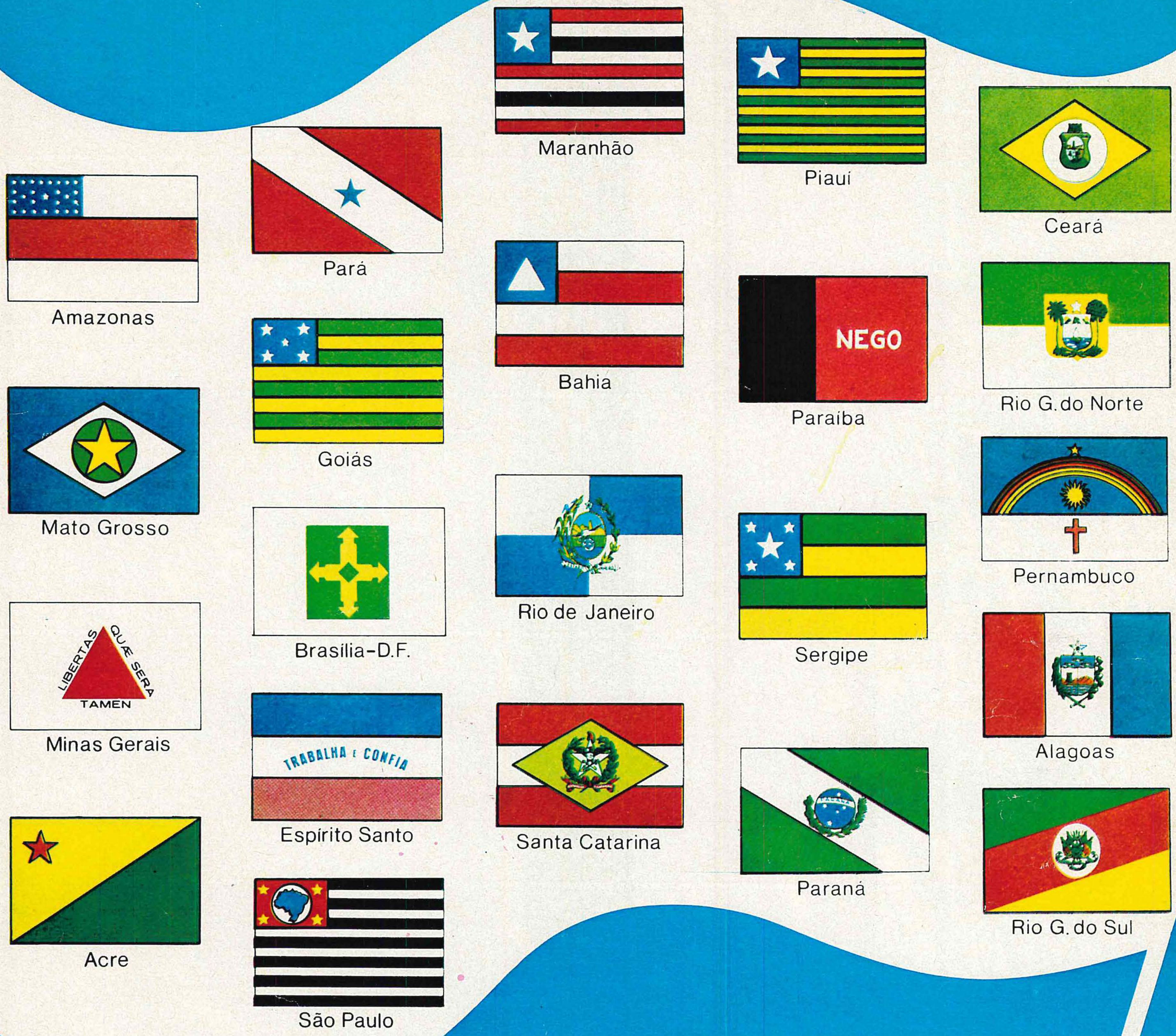
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Promonte

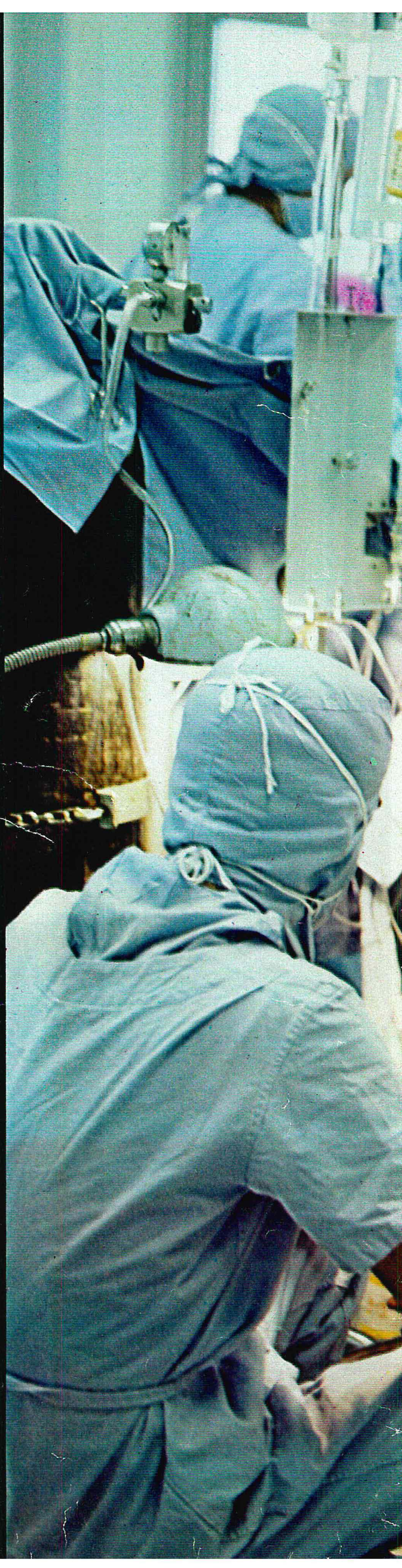
A PLAN TO ELEVATE THE STATUS OF MAN

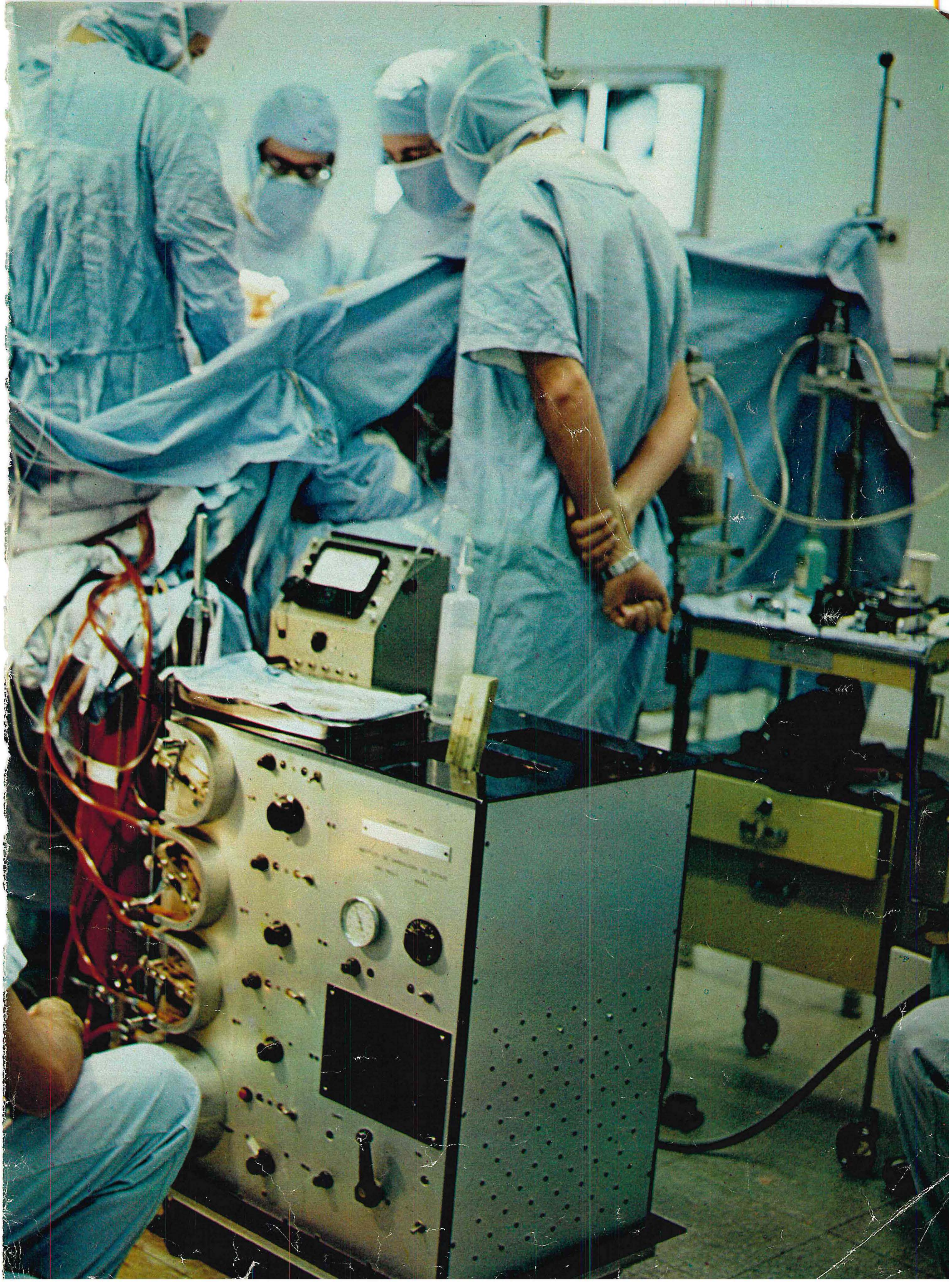
The Second National Development Plan (launched in october of 1974) is aimed, predominantly, at elevating the living standards of Brazilians, followed by socio-economic development plans and investments in scientific and technological research. The Plan envisages (for the next five years) enormous financial expenditures in the development of urban social services, rural development on an unprecedented scale and national integration never before attempted. To speed up its first objective, 267 billion cruzeiros (roughly 38.5 billion dollars) have been apportioned: 135 billion cruzeiros for education, 110 billion for public health, sanitary engineering and nutrition, and the rest for vocational training.

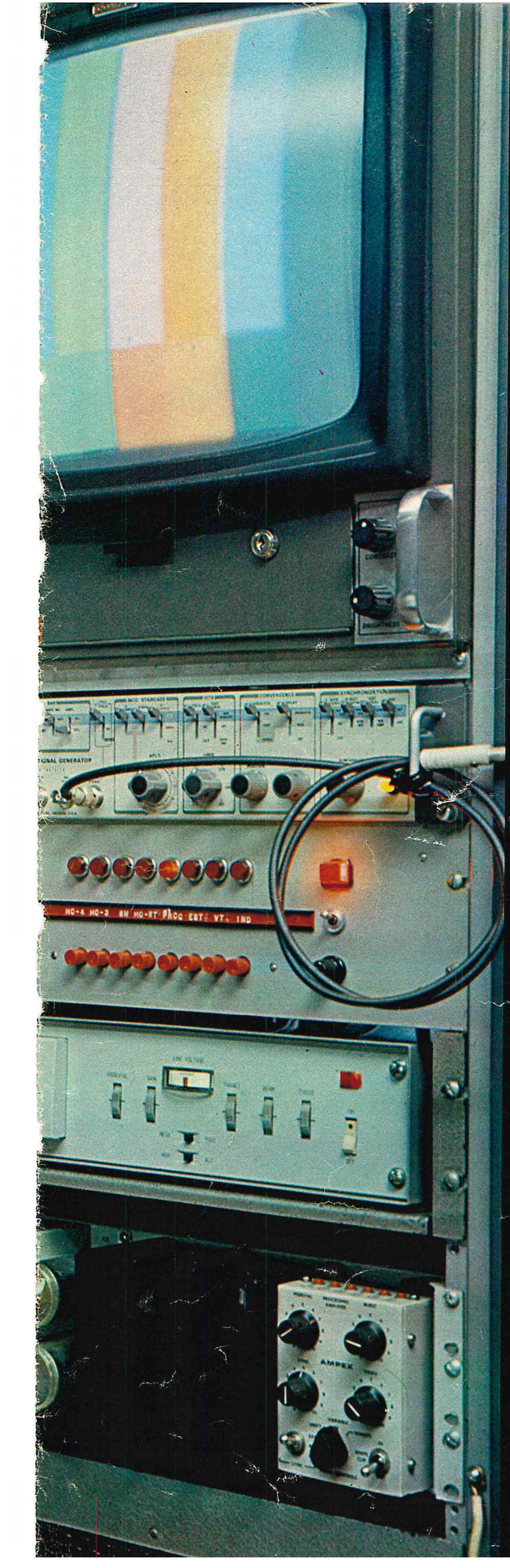
Within the next five years the Second National Development Plan will create 6,600,000 new job opportunities

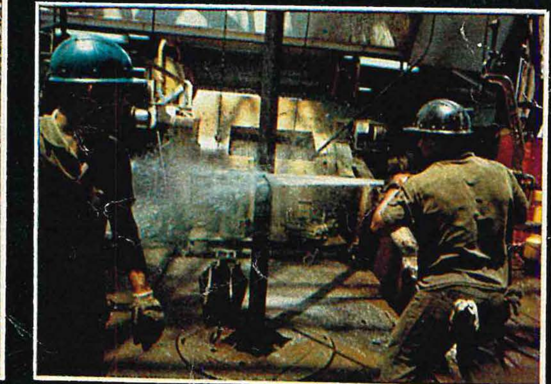
THE emphasis of the Second National Development Plan is on investment, during the next five years, in social services. During the same period an average of 1,320,000 new jobs will be created annually with an annual increase of 2.9% which will total 6,600,000 new jobs by 1979.

In the field of social integration an investment of 384 billion cruzeiros is envisaged. Of this total, 83 billion cruzeiros will be invested in public housing, through the National Housing Bank, and 243 billion cruzeiros in social security services. For urban social services, it is estimated, 110 billion cruzeiros will be spent. Priority plans include education and public health which will largely benefit from the multiannual budgeting for 1975-'77, in addition to financial resources from the National Savings Bank and the National Housing Bank.





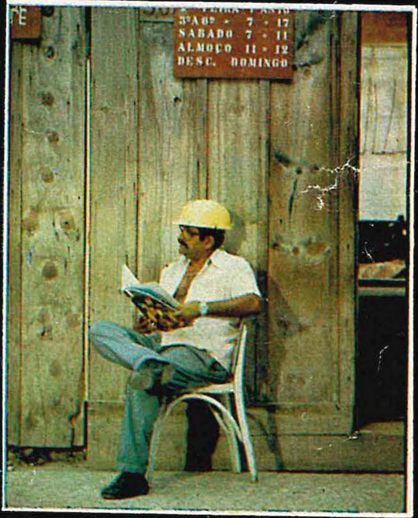


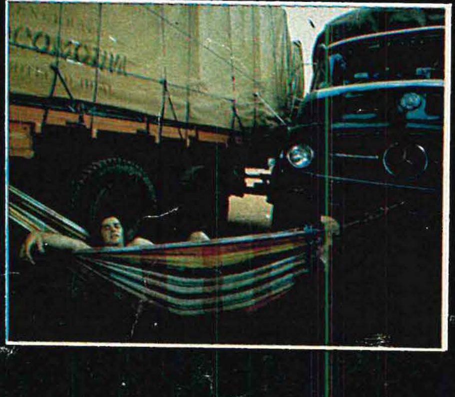


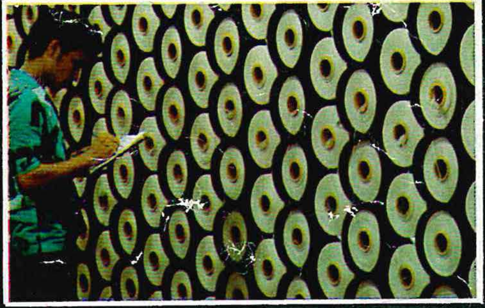
Until 1977, with a National Gross Product of more than 100 billion dollars, Brazil will benefit the lowest-income population

BOTAFOG
CENTRO

EMPHASIZED in the preamble of the Second National Development Plan legislation with reference to political, social and economic guide-lines to be followed is this: "Always considering the well-being of Brazilians, we shall never lose sight of our preoccupation with shape and destiny of a society we are dedicated to." By 1977, Brazil will have passed the 100-billion-dollar barrier in its NGP, thus remaining in the world's position as eighth market and one with the greatest growing rate. It is estimated that the population of Brazil, economically active, will reach 39 million by 1980, which represent 32 to 33 per cent of the nation's total population on the active, constructive list, a substantial increase over the early '70s.

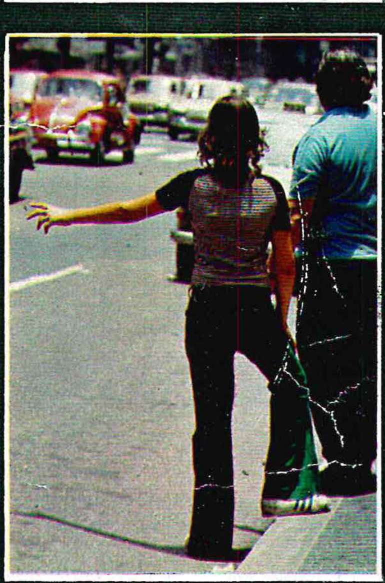






Overall improvements in labor market conditions will have far-reaching effects, including a more equitable income distribution

Further consequence of new job opportunities envisaged for the next five-year period will be, undoubtedly, a drastic reduction in so-called total-poverty afflicted people — this due to overall per capita income. Following this reasoning — and planning — under-employed manpower of the nation's hinterland and northeastern regions will be substantially reduced. Moreover, as a direct result of improved employment opportunities, total national economy — the consumer market — will expand proportionately, generating, in turn, new jobs.



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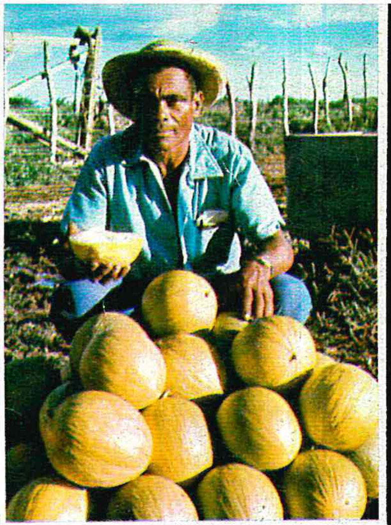
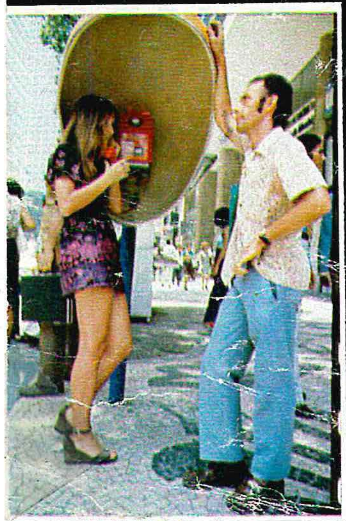
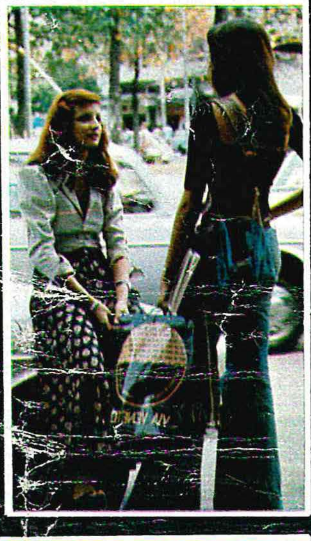


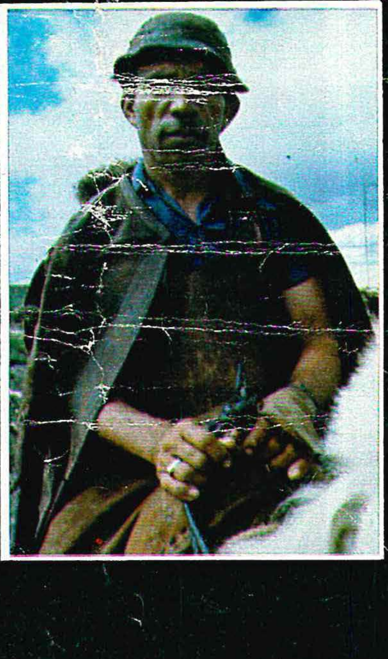
Social services and public health, aided by scientific methods and technology, to confront problems of the North-East

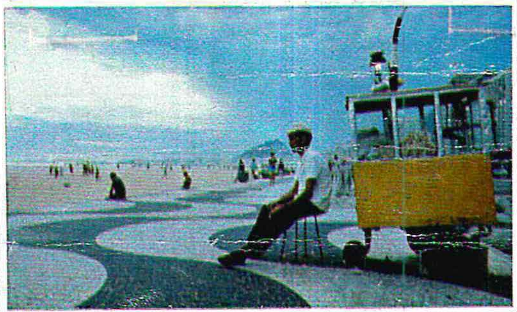
WITHIN its scope of action, the Second National Development Plan, immesurably strengthened by total resources at government's disposal and aimed irrevocably at promoting the worth and well-being of man — all Brazilians, for that matter — contains special programs for the North-East. In that vast region people still live on the brink of misery and hardship during the periodic droughts that have afflicted the north-eastern states for centuries. The region is the nation's poorest in per capita income.

Coordinated and executed by the Ministry of Social Security, the Social Development Plan for the North-East is the first major program ever launched for the improvement of living conditions in a region that embraces nine states, millions of people and is, by comparison, larger than Western Europe. The Grand Design for the North-East includes the establishment and progressive development of such essential services — for the benefit of the region's population and Brazil's as a whole — as public health, safe water supply and sewerage systems and all other public services synonymous with and directed toward improving the lot of man in the North-East.





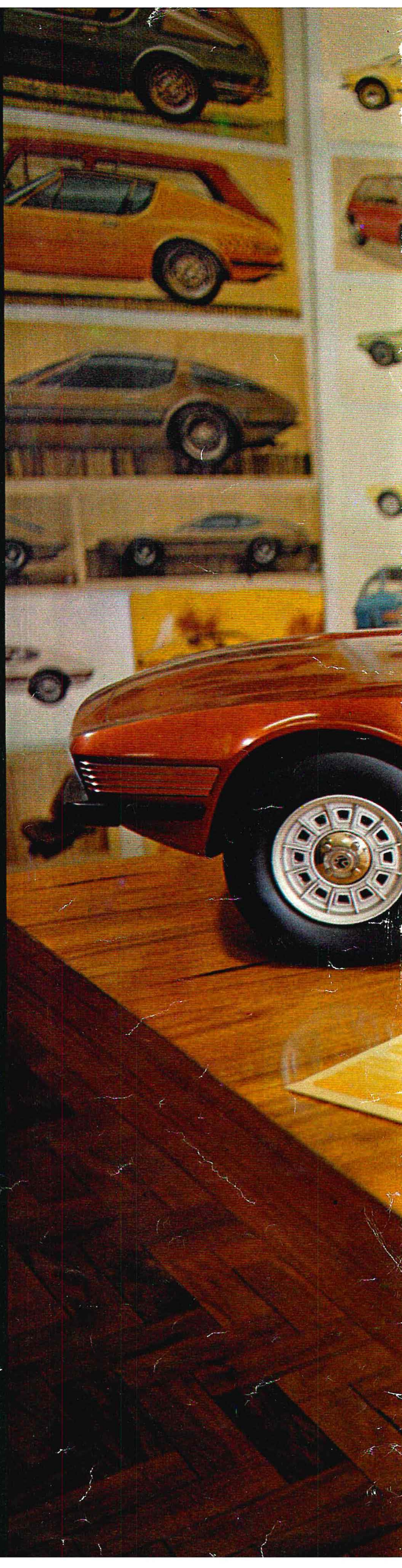




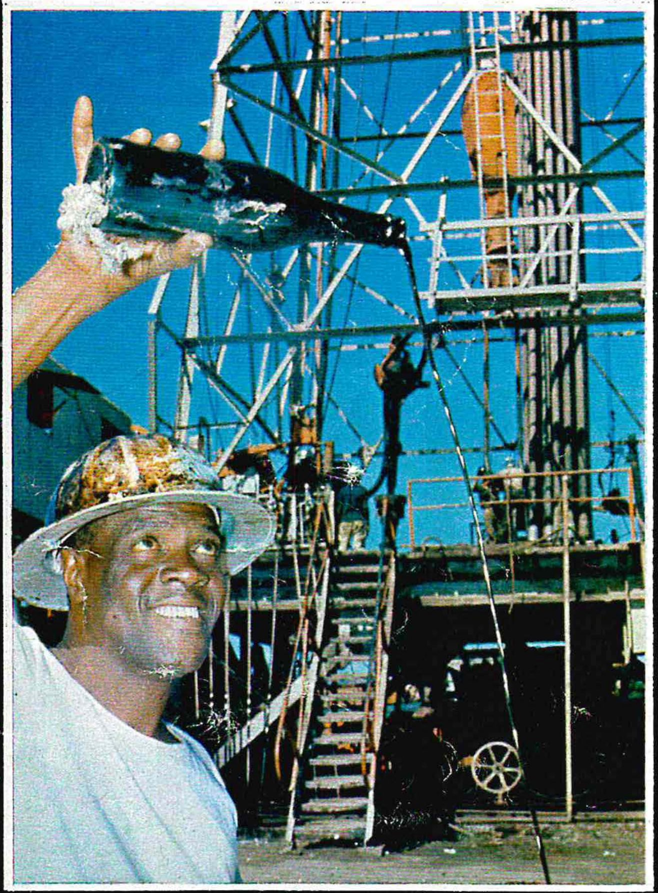
All levels of population to be protected by a rigid policy of price controls of essential consumer goods

AMONG the directives incorporated in the Second National Development Plan — in that particular section of the Plan which envisages Social Integration through savings incentives and a more equitable income distribution, as well as through popular housing projects — is a special provision for progressive extension of social security to benefit ever larger numbers of population, particularly the lowest income workers. Thus the Plan will ensure that all working people share more equitably in income and essential urban services. To protect the consumer at all population levels, the Plan will ensure that the lowest possible prices of basic consumer goods should prevail, as well as quality of medicines and safety in mass transportation. Industrial output, the Plan provides, and public services must be aimed, first of all, at protecting the consumer.

RIBEIRÃO PRETO EMBRATUR 313 SP CAT. A



"The principal objective of the entire national development program is the brazilian in all walks of life." — This is clearly expressed in the Second National Development Plan



IN building Brazil of the Future, concepts of a free society — socially, racially and politically — are being strictly followed. These concepts represent a Brazilian model. In its development efforts, the government is conscious of the necessity of offering most opportunities for most people, without neglecting any class of people or a specific region in a constant drive for modernization and progress. The Development Plan is averse to extending privileges to a class, a group of people or a region. Rather, the Plan encourages the society as a whole to pursue institutional reforms — economic, social and political — folowing overall national strategy and objectives peculiar to the Brazilian culture.

This because, as expressly outlined in the Second National Development Plan, the major objective of national planning is the Brazilian Man. For the improvement of the living conditions of every Brazilian, the Plan emphasizes, regional development is highly important, if, for instance, the conditions in the North-East are considered. The North-East hitherto has been traditionally Brazil's poorest region, more specifically in the area of northeastern agriculture with its low yield and income. Considering these factors, the Plan is aimed at a dynamic, revitalizing strategy, capable of speeding up progress and better earning conditions. The Brazilian problem consists not only of distributing the income, but also of leveling it in order to eliminate poverty.

Objectively, the next development stage will follow this pattern:

● A substantial increase in individual income at all population levels. In this respect it will be of paramount importance that the working and middle class of the population be the most benefitted through ample opportunities for all — economic and social — with view to establishing a society always looking forward with optimism.

● A substantial decrease of "total poverty" — an expression applied to families whose income is below a permissible level for adequate nutrition and needs of health, education and housing.

To meet these objectives, the Social Development Council — an advisory organ of the Presidency of the Republic — will be responsible for activating social development and coordinating the government's efforts between the ministries involved.

With a priority objective of eliminating poverty on a national scale, the emphasis of the Second National Development Plan is on salary levels and capital assets. In respect of salaries, the Plan guarantees annual adjustments of minimum salaries; in regard to Social Integration Policy, resources mobilized will total 384 billion cruzeiros.

SIMULTANEOUSLY, a vast program of orientation and expansion of economy — especially in the field of agriculture — is being launched in new humid areas of the North-East, in the transitional zone of the states of Piauí and Maranhão, the Central Highlands and in selected Amazon areas. To accomplish this, training programs are currently under way, aimed at improving labor skills of some two million laborers. These training programs are under the sponsorship of the ministries of Education and Labor, assisted by the private sector directly interested in orientation and expansion projects.

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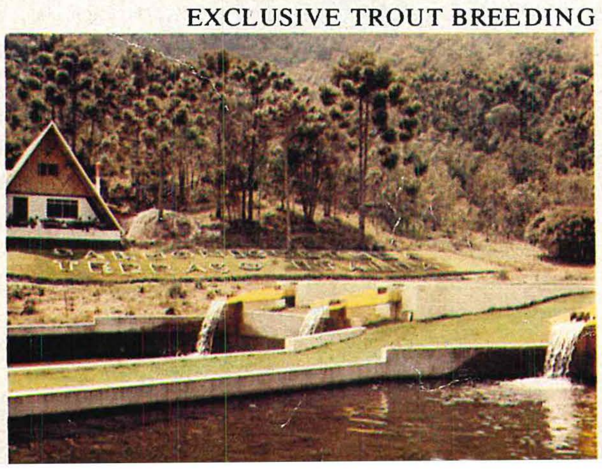

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BRAZI

We are in the year 1979, in the month of January. President Geisel has just returned from his last official visit to Northern Brazil. There he saw at close range the concrete results of the 14 projects launched during the preceding years under the all-embracing development program of Amazônia. The country already is in the pre-Carnival fever. But the President is still going to Recife, to personally verify the results achieved under the North-East development projects. From here on, within 60 days, he will be passing on the reigns of government to his successor. President Geisel became the nation's chief executive on March 15, 1974. During the years of his government, the Second National Development Plan was launched and executed. Practically all of the Plan's objectives have been reached. Some even superceded. Brazil '79 is justifiably proud with the achievements of the five-year development plan, as can be verified from facts and figures that follow.

THIS decade of the 70s, terminating within 11 months, will go down in the history of Brazil as a decade of major importance and profound decisions. During this decade we have witnessed two distinct transformation phases:

1. The first half of the decade, during the period of time between 1970 and 1974, under the presidency of General Emílio Garrastazu Médici, Brazil's prosperity coincided with that of the world at large.
2. The latter part of the decade, 1974-1979, with Brazil governed by General Ernesto Geisel, Brazil became witness to extraordinary efforts which became necessary to maintain internal progress and development, despite international crises.

Crude oil problems

It was precisely in the middle of the decade under review that the price of crude oil went up four-fold, contorting and precipitating world situations as to industrial stagnation, upward prices of everything dependent on oil and even threats to peace through outspoken menace of military intervention in the oil-producing areas.

It is incredible that none of the futurologists, including those of the prestigeous Hudson Institute, could foresee or warn the human race that it will become dependent upon a single commodity — oil. Once the crisis erupted, the entire Western world was caught unaware, greatly surprised. The Japanese, the Europeans and the North Americans, arms and brains twisting, threats and counterthreats flying about, had created an atmosphere of utter confusion — and danger to world peace.

From that time on, from the time of oil embargo and oil supply boycott enforced by the oil-producing countries against the Western world, the poles or decision centers of world economic trends underwent a dramatic change. The almighty dollar suffered devaluation after devaluation in the world of finance. Monetary values, per se, had to be readjusted. All this resulted in empty pockets of most developed nations which had to seek new avenues for their balances of payment.

Brazil, affected by the oil crisis of the world, had to find means and ways of readjustment — with maximum speed and expediency. If the oil crisis would continue, it would be prudent to place development emphasis on areas less dependent on oil. For example, if heretofore road and highway construction were among top priority projects, it became prudent to shift the spotlight on railways, modernizing the existing network and tracing new lines of economically strategic importance, utilizing electric power instead of oil. Thus was launched the National Railway Plan.

Meeting problems with prudence

As oil prices continued to rise, threatening the very economic structure of developed and developing countries, Brazil had but one alternative: to go look for its own sources of oil! The Government set aside considerable funds for scientific prospecting. Offshore drilling equipment was procured. Areas until then considered economically useless began to be viewed and restudied from new angles. Even bitumenous deposits now began attracting attention as a possible source of fuel and power.

Consequently, Brazil's own oil production, which during the prior four years remained stationary at 170,000 barrels daily, rose to 200,000 barrels per day within a few months — and continued rising most significantly, due mainly to new deposits discovered along the shorelines of Sergipe, Alagoas and Rio Grande do Norte.

Above all else, the discovery of a submarine oil deposit which through drilling and analyses proved to be of major proportions and was named the Garoupa Well, and other strikes that followed in quick succession off the state of Rio shore, in Sergipe and elsewhere, gave rise to Brazil's high

L'79

A realistic preview

by MURILO MELO FILHO

hopes of becoming self-sufficient in oil even before the end of the decade.

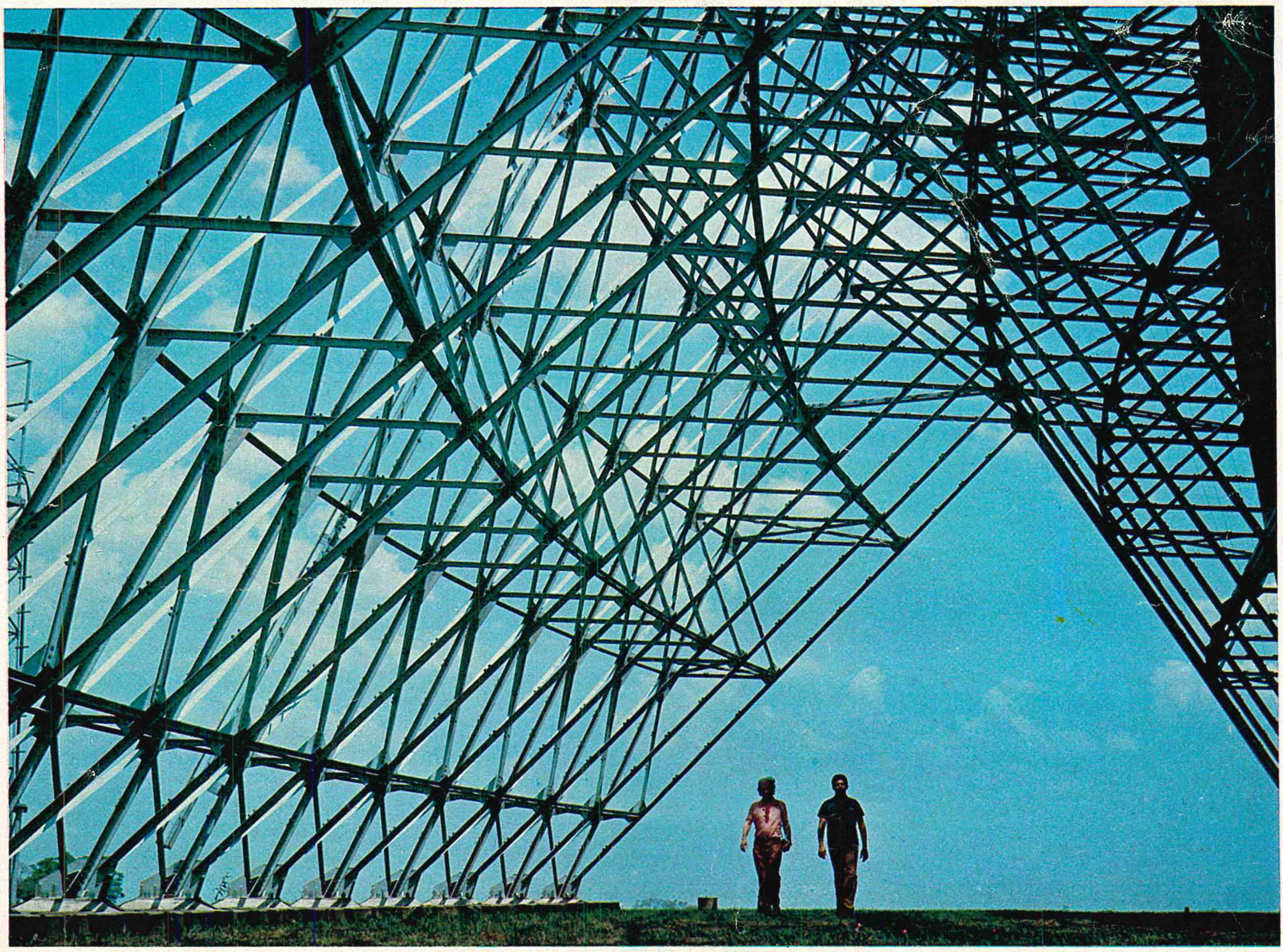
Simultaneously, consumption diminished, rather than continue rising at an alarming rate. The use of federal and state government vehicles became restricted in order to save fuel. Speeding along the nation's highways was reduced. Every means of decreasing fuel consumption was introduced. The Brazilians became conscious of the sheer necessity to save oil! All efforts were concentrated on the proposition that the "oil item" should not seriously endanger the nation's trade balance, at least while Brazil was adopting readjustments in its economic and fiscal structures to better be able to confront new challenges.

The progress in exports

Brazil's volume of **exports increased practically threefold** during the Second National Development Plan, rising from $7.5 billion in 1974 to $20 billion.

Our **internal investments,** for the same period, marked an impressive increase from 196 billion cruzeiros to 316 billion cruzeiros, an almost incredible rate of increase of 61 per cent. **Personal expenditures** went up from 546 billion cruzeiros to 847 billion. **Industrial production** had gone up from 212 billion cruzeiros to 374 billion, at the rate of increase of 76 per cent. And the **transformation industry** had registered a climb from 154 billion

TO BE CONTINUED



cruzeiros to 274 billion. **Agricultural outputs** went up from 93 billion cruzeiros to 130 billion, a boost of 40 per cent.

Rhythm of development

- **In the area of education,** entrance exams at the primary level went up from 18 to 23 million; at secondary level, or junior high, those passing exam hurdles increased from 1.7 million candidates to 2.5 million hopefuls; and at university level, from one million to 1.7 million students.
- **In the field of steel industry and metallurgy,** steel ingots, numerically, went up from 8 million tons to 22 million; aluminum — from 120,000 to 190,000 tons; zinc — from 33,000 to 58,000 tons; and copper from 10,000 to 60,000 annual tons — a spectacular increase of 500 per cent!
- **Cement production,** during the period under review, went up from 17 million tons annually to 26 million tons; **iron ore** mining had one of the other most spectacular production increases — from 60 to 138 million tons! From this avalanche of iron ore, exports went up from 44 million tons to 98 million tons, a 123 per cent increase!
- **Electric energy** had an installed capacity of 17 million kW. It went up to 28 million kW. In the meantime, electric energy consumption increased from 61 to 107 billion kWh.
- **Refining capacity:** Crude oil refining capacity went up from one million barrels daily to one million, six hundred and fifty barrels; prospecting and exploration investments rose from 2.2 billion cruzeiros to eight billion — an increase of 264 per cent.
- **Transportation:** The network of paved roads and highways saw an increase from 41 to 63 thousand kilometers; investment in railroads grew from 12 to 28 billion cruzeiros — a 124 per cent boost; shipping tonnage increased from a total of 4.2 million tons to 9.4 million tons.
- **Sanitary engineering:** Urban population, supplied by safe water, went up from 40 to 60 million persons, while the number of city dwellers served by sewerage systems rose from 17 to 33 million — a 90 per cent progress!
- **In the area of communications,** only the number of installed telephones registered a remarkable increase from 2 to 9 million 'phones — a 350 per cent increase.

The nation's development pace

When on the 15th of March ('79) President Ernesto Geisel hands over the nation's highest office to his successor, who will head the fifth post-revolutionary government, Brazil will be pacing toward certain development goals.

During the intervening years, through careful planning and a total national effort, all basic concepts of indispensable infrastructural needs and demands have been met and complied with. From now on Brazil will be standing firmly on its own feet.

The new administration, taking over from President Geisel, will carry out the final stages of the Second National Development Plan, most likely, will start thinking about the Third Plan for the 1979-'84 period of time. In such a case — a probability — every emphasis will be placed on obtaining an average rate of development — as was the case during the last five years: in the field of agriculture — 7% annually; public works and services — 9% and industrial output — 12%.

We have learnt during the last few years some hard lessons. We have learnt, for instance, that in this day and age the figures and the numbers translate and present the true image of social and economic realities — certainly not, as in the past, so many words consisting of adjectives and adverbs and demagogic nonsense. Also, we have learnt that the destiny of Brazil is in our own hands and is dependent, exclusively, upon our efforts, upon our own selves.

Through lessons so well learnt, we have become conscious of past administrations that were, essentially, bad administrations. We have lost precious years in useless discussions of matters of no importance. We have indulged in arguing about and discussing the sidelines, not matters that really mattered — and during all that time man was preparing to land on the moon.

We had, therefore, to redouble our efforts to catch up with lost time. These super-efforts were not in vain, as our tremendous leap forward well proves.

Also, we are in a hurry. We have to accomplish within the last 20 years of this century, before the year 2000, all that — or more — than it took the developed nations to accomplish within 200 years.

To better life in five years

During this arduous five-years road, while millions of human beings died from hunger in the world at large, the Brazilians began to live better: the average age rose from 60 to 65!

Also, while the greater part of the world found itself in the grip — or grips — of one crisis after another, Brazil and its people began to breathe easier, **to enjoy life better:** simply because the individual income of every Brazilian doubled during the period (and do remember, this is a preview of Brazil '79).

Even though some benefited more than the others — because equal distribution of riches or incomes still does not exist in this world — it is obvious that all, everybody, had improved his or her income and living conditions. It is axiomatic that in periods of stagnation or recession everybody becomes the loser.

As we reach A.D. 1979, we can well afford to leave behind our Second League position — that of underdeveloped nations — and, heads high, enter, as a fully qualified member, into that exclusive Club of Developed Nations.

As we enter the hallowed portals of that prestigeous, almighty Club, we raise our heads even higher, for we have reached our justified place — this unique feat — without humiliation, without ever bowing our heads, but with pride, retaining our national characteristics, styles and methods of doing things our own way.

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In 1980 there will be 1 million tons.

But Mannesmann's activities also spread into other operational areas: in metallurgy, producing seamless and welded tubes for all purposes, special steels for the automobile, aviation and agricultural tool industry.

In manufacturing: heavy machinery, steel mill installations, hidraulic equipments and industrial transport techniques.

However, among all of the Mannesmann products, possibly the most important ones are the 11.000 jobs it produced in Brazil, followed by the policy, extended to its staff, of assisting and enhancing the human element.

Through this fusion of efforts Mannesmann lives, and helps the country to live.

And this is how it shall remain. Fired by the faith Mannesman has in this country and its people.

A great faith.

Great enough to move mountains.

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JOSÉ BONIFÁCIO

TROLEUM

Brazil will invest a total of 56 billion cruzeiros in this area during the next five years, not including the petrochemical activities

WITH its 327 meters of overall length and more than 200,000 dead weight tonnage, the JOSÉ BONIFÁCIO (photo), one of the largest and most recent additions to the FRONAPE fleet, is an eloquent illustration of the growing might of PETROBRÁS, one of a hundred biggest companies in the world. When established as a subsidiary of Petrobrás, Fronape (National Oil Tanker Fleet) had but 22 small vessels, totalling 220,000 tons. Presently the company has 40 ships with a total capacity of 2,071,000 tons which places it among the world's largest owners of tankers.

In the area of petroleum, the Second National Development Plan provides guidelines and goals compatible with the ever increasing domestic demand for the "black gold". The program envisages stepped up prospecting and production with solid financial backing. Investments in this sector, which amounted to 8 billion cruzeiros during the 1970-'74 period, will be raised to 28 billion cruzeiros during the next five years. Total investment during the following five years, which will include construction of new tankers for Fronape, will reach at least 56 billion cruzeiros, not including the petrochemical activities. As far as prospecting is concerned, Petrobrás has launched a crash program as soon as the international oil crisis began in 1974 and employed seven new units for offshore drilling. Thus, a total of 12 offshore drilling rigs, two survey ships and a third specially equipped vessel are presently in action. This activity will result in a daily production increase from 180,000 to 220,000 barrels in 1975.

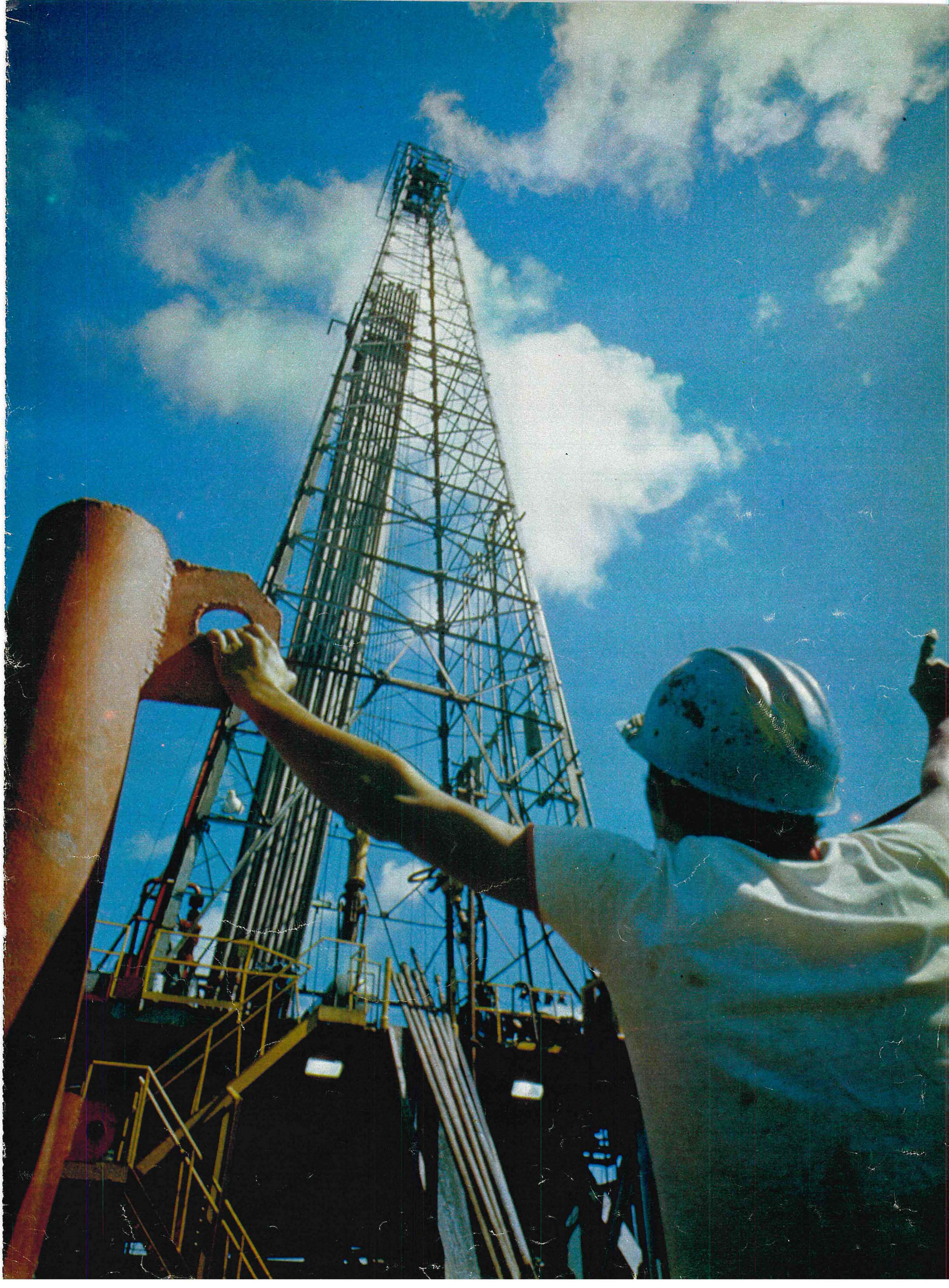
Built in Japan, JOSÉ BONIFÁCIO joined the Fronape fleet in January of 1975. Normally, the giant tanker brings crude oil to Brazil from the Middle East and takes Brazilian iron ore to Japan. The large picture shows its vast holds being cleaned of oil in preparation for taking on iron ore.

BY 1977 the Fronape tankers, in sufficient numbers, will be able to transport 1,800,000 tons of crude oil. Additionally, Petrobrás (the national petroleum monopoly) has a system of oil pipelines which extends over 600 kilometers, without mentioning another 600 kilometers of pipelines installed at production sites and maritime terminals such as: Almirante Tamandaré in Guanabara; Almirante Barroso in São Sebastião, São Paulo; Tramandaí in Rio Grande do Sul; Madre de Deus in Bahia and Aracaju in Sergipe. Before September, 1974, national oil production had reached 7,644,000 cubic meters (more than 48 million barrels) or a daily average of 180,000 barrels. It is noteworthy, however, that during the third quarter of that year, average daily production already was 186,000 barrels, showing an ample increase over the same period of the year before. This increase was substantially due to a new offshore rig having started producing in July of 1974 in Caioba, Sergipe. For the same comparative period, natural gas production rose by 23% to 1,066,507 cubic meters.

NATIONAL oil production will be markedly increased during the next two years, considering the potential of newly discovered sources

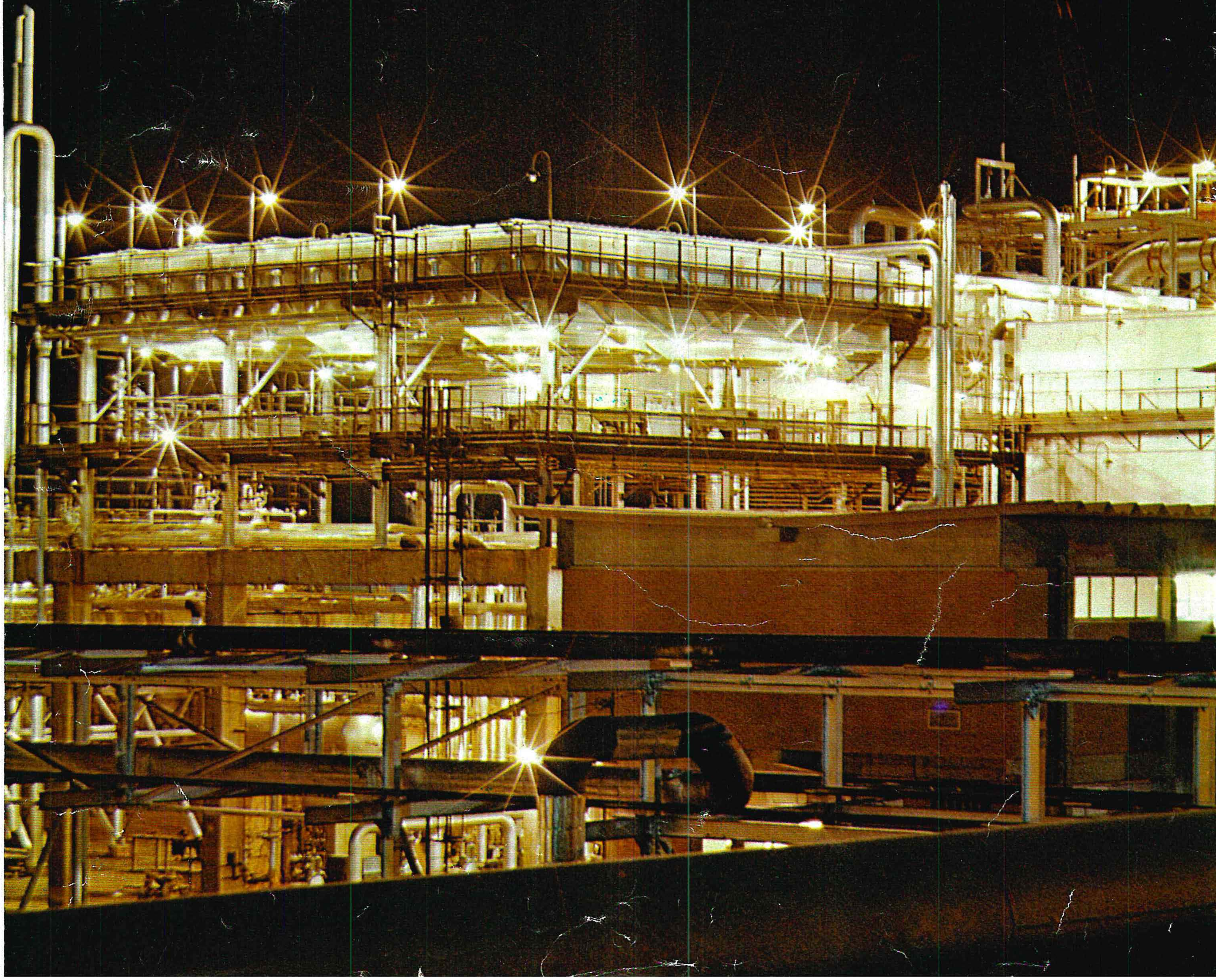
ELEVEN years ago, soviet geologists affirmed, after detailed studies, that "opinions as to non-existence of oil in sufficient quantities in Brazil were not quite correct."

THE certainty that in the near future Brazil will become a great oil producer is no longer doubted, nor even discussed. Constant new discoveries of "black gold" deposits tend to support statements made by Soviet Geologists E.A. Barokov and E.I. Tagiev who, while in Brazil in 1963 at the invitation of Petrobrás, affirmed: "Opinions as to nonexistence of oil in Brazil in sufficient quantities are not exact. Brazil's subsoil and offshore formations are indicative of the presence of oil and natural gas." During the last 14 years, patient and repetitious studies proved clearly that oil did exist, particularly along the continental shelf of Bahia, Sergipe, Alagoas and the state of Rio. And from Acre to Rio Grande do Sul convincing proofs indicate existence of subsoil oil deposits.



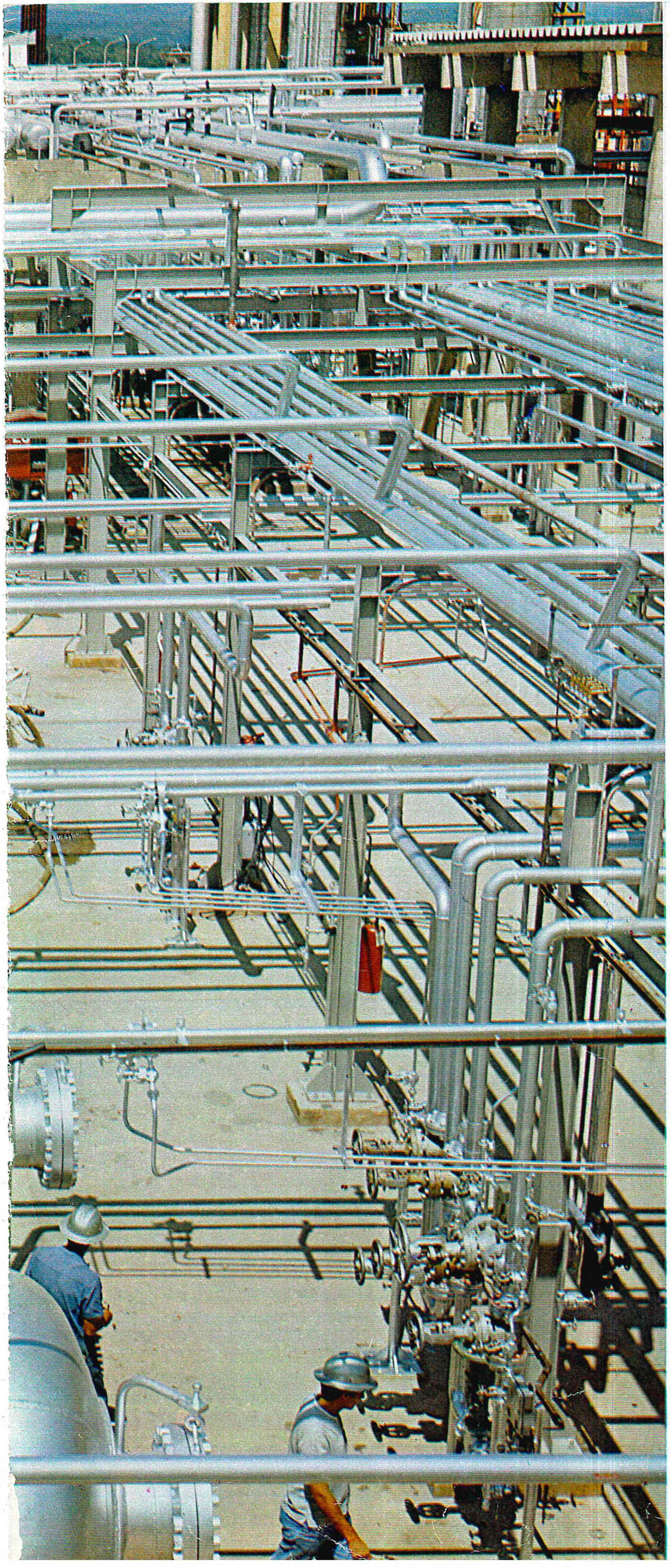
BRAZIL'S oil refining capacity continues to grow at an increased rate. Only during the first three quarters of 1974 a 6% increase was obtained in comparison with the same period of the previous year

PETROBRÁS refineries and asphalt plants processed between January and September of 1974 crude and naphtha amounting to 35 million cubic meters or 806,000 barrels daily, showing a 6% capacity increase over the same period of the previous year. In accordance with an expansion program, a new unit of the Paulínia Refinery in the municipality of Campinas, stae of São Paulo, became operational, adding to the refinery's capacity 252,000 barrels daily. Simultaneously, work was finished on additional units of Betim and Canoas refineries in Minas Gerais and Rio Grande do Sul, respectively.



IN addition to being a giant enterprise, Petrobrás also is an important research and study center — a virtual petroleu

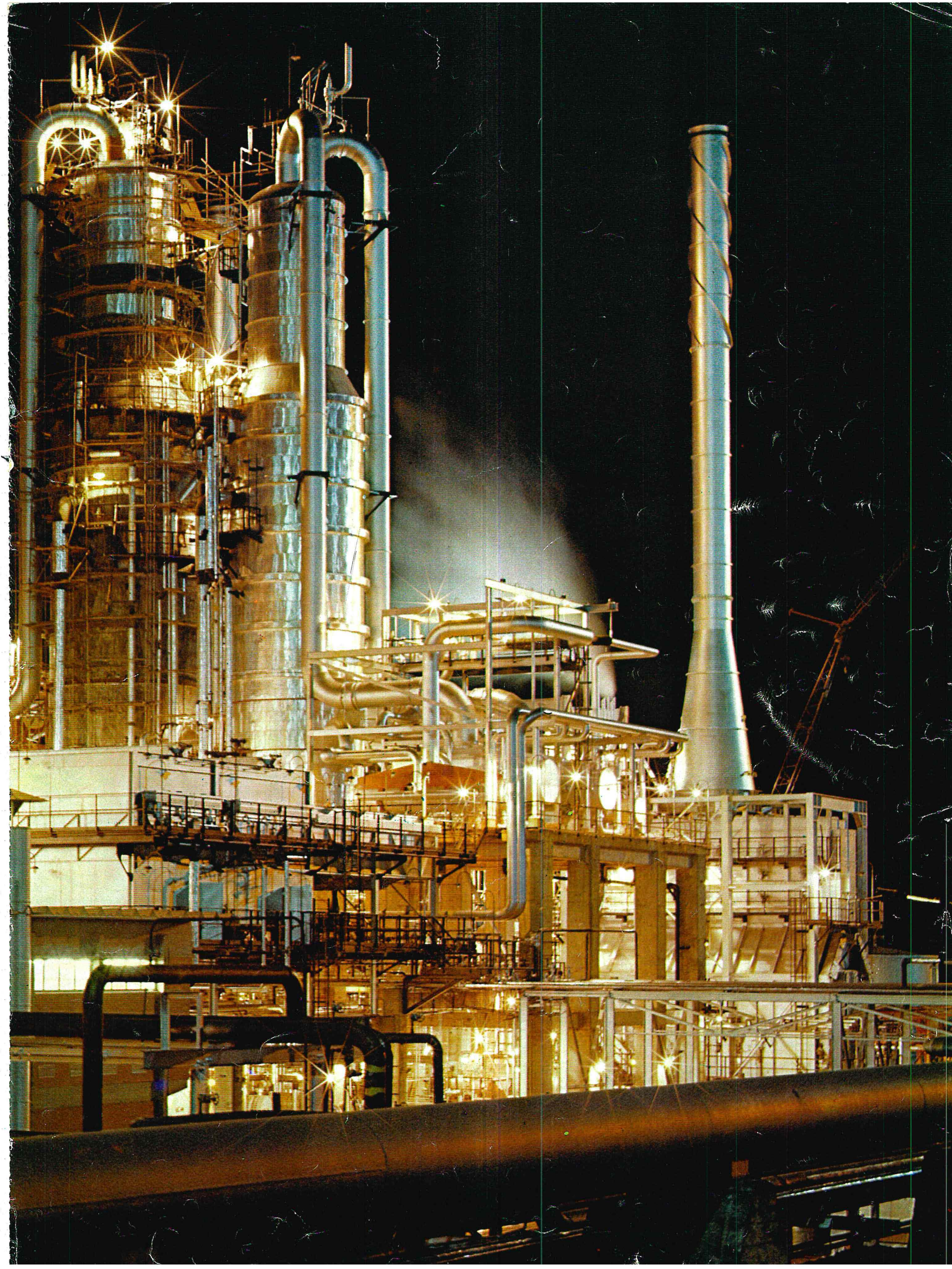
IN addition to being a grand industrial enterprise, Petrobrás also is a major study center, a virtual University where one learns everything about petroleum. In its Research and Development Center on Fundão Island in the Guanabara Bay (Rio de Janeiro) a multitude of research projects are being pursued, among them the viability and practical advantages of mixing gasoline with alcohol for automotive propulsion; studies of new oil lubricants; research studies in the field of petrochemical production; projects in connection with refining oil from bituminous substances. Also relentlessly pursued at the Fundão Center is the Project REMAC, which consists of a detailed study of the Brazilian continental shelf, and Project TERMOL — the



With economy and rationing measures already in force or to be further adopted, it is estimated that this year Brazil will not exceed 800,000 barrels for its daily consumption of petroleum and its by-products — a quantity four times higher than the Petrobrás wells presently produce.

DESPITE immense difficulties and high operational costs, prospecting for oil in Amazônia appear to be most promising, especially in Northern Acre

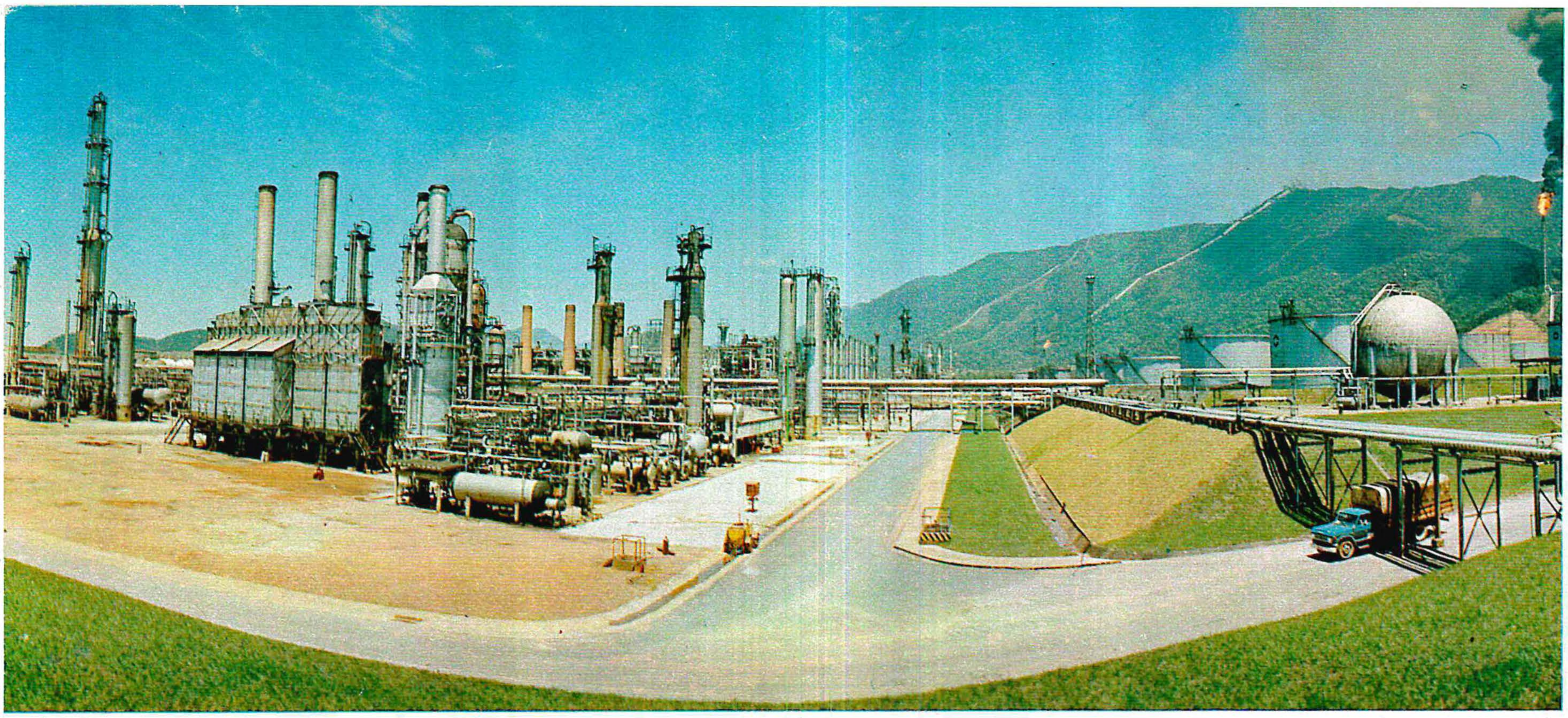
THE most arduous job of prospecting for oil currently in progress in this country is, no doubt, in the Amazon region where the Petrobrás has already completed various seismic studies. In order to be able to drill for a test in Northern Acre, a rig had to be divided up in many parts to permit its transportation by a helicopter. On the other hand, personnel working in the region has to be replaced periodically, as no one can remain confined to a jungle for any length of time. For this job the Petrobrás has to use its own small aircraft, with logistical support from the Brazilian Air Force which had established two special weekly flights from Manaus to Cruzeiro do Sul in Acre. Considering these difficulties and special circumstances, operational costs of prospecting and drilling in Amazônia are, understandably, much higher than in other areas of Brazil. However, despite all this, a semi-submerged rig, the first of its kind in South America, is already in operation in the Amazon River's mouth.



thermal lining of pipelines for hot oils. In specialized areas, Petrobrás already benefited 7,904 aspiring young students through instruction, practical courses and study grants — including those from other companies and college students.

university

Photographs on these pages show oil exploration along the coast of Sergipe which superceded all previous expectations. Within the next three years, Petrobrás plans to instal in this region the most sophisticated equipment, similar to that used in the North Sea.



Within nine months, between January and September of 1974, Petrobrás assets increased by more than five billion cruzeiros or a total of 19 billion cruzeiros, placing it, in importance, at the top of Latin American companies.

DURING the next decade, 60% of all oil to be pumped up in various parts of the world will be derived from maritime wells whose reserves are estimated at 100 billion barrels — including brazilian sources

"IN the end, all told and considered", wrote recently Journalist Murilo Melo Filho, "it does not seem possible that a land mass of 8.5 million square kilometers and a maritime domain extending 200 miles offshore along a coastline of nine thousand kilometers should be so poor in energy sources of mineral origins, as was suggested by the Link Report. I would rather think that the reservoirs of oil and natural gas existing in Colombia, Bolivia and Peru do not abruptly end at our frontiers with these countries, as though suddenly switched off."

Above all else, it is already of common knowledge that Brazil's oil deposits are mostly located under the sea bottom, exactly where all the world oil reserves yet unexplored are located. Studies carried out by Standard Oil recently reveal that offshore drilling presently produces eight million barrels daily or 17% of world-wide oil production. The same company estimates that under-sea bottom oil deposits must be in the neighborhood of 100 billion barrels — of proven deposits — equivalent to 20% of the world total. It is furthermore estimated that during the next decade 60% of all oil pumped up will come from continental shelves and maritime rigs. Only in the United States, during the last 20 years, no less than 15,000 maritime wells were sunk. Presently, 25 nations are marketing sub-sea bottom oil.

Brazil is one of the countries looking for oil, hidden beneath the sea bottom. Not only that but Brazil already is one of 37 countries in whose continental shelves the existence of oil and natural gas has been confirmed. And we have duly joined the nations marketing petroleum derived from sub-sea bottom deposits.

Exploration efforts already carried out by Petrobrás along Brazil's extensive continental shelf, with drillings to a 200-meter depth, confirmed "what was expected, namely that continental deposits extend toward the open sea. Thus, we already know that the continental shelf deposits of Brazil are impressively extensive. In addition to Sergipe, where the sedimentary area is estimated at 10,000 square kilometers and which already is gushing oil, our other promising sedimentary areas are: Acre, Amazonas, Maranhão, Pará, Barreirinhas, Piauí-Ceará, Potiguar, Rio Grande do Norte-Pernambuco, Alagoas, Bahia Norte, Recôncavo-Almada, Bahia Sul-Espírito Santo, Campos, Santos and Pelotas.

Petrobrás experience with sub-sea bottom prospecting began in August of 1954. Maritime prospecting in the area of Recôncavo Baiano (The Bay of All Saints) and Dom João (Madre de Deus) gave immediate positive results. Of the one thousand plus wells sunk, 632 produced oil in commercial quality and quantity, and of these 400 are still producing!

IT was in the year 1959 when Petrobrás began drilling, for tests, along the Sergipe coast, simultaneously with likewise activity which the company had launched in northern areas of the state near a place called Carmópolis. On the 17th of August, 1963, oil gushed for the first time from a well in Carmópolis. Shortly it was proved that sub-sea bottom oil deposits did exist along the Sergipe coast and, moreover, that these deposits were but an extension of subterranean deposits.

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Barbara Eggmann recently delivered the following monologue at her check-in desk at Zürich:

Votre vol pour Abidjan sera appelé à 11 h 50, sortie 2. Bon voyage!

Accra will be c Please don't fo your seat sele a good flight.

11.40 h, salida No. 11, confío en que haga mejor tiempo en Barcelona.

Basel wird am am Usgang 11 uf Wiederlueg

Votre vol pour Bruxelles sera appelé à 8 h 10, sortie 15. Au revoir, Monsieur Vanhoek.

Nuestro vuelo para Budapest será anunciado a las 19.10 h en la salida No. 14. Buen vuelo.

Il suo volo per Bucarest sarà chiamato a mezzogiorno. Uscita numero 9. Arrivederci e grazie.

Pase por favor al despacho para la selección de los asientos para Buenos Aires. Buenas noches.

Uw vlucht naar Casablanca wordt om 9 uur omgeroepen. Uitgang 5. Goede reis, Mr. van Hoye.

Mr. LaRosa, the and your twin Chicago will be Good-bye.

Sie müend pressiere, Herr Gredinger, de Flug uf Düsseldorf wird i dem Moment usgrüeft, uf Wiederluege.

Beim Ausgang 10 wird der Flug nach Frankfurt um 7.45 ausgerufen, Herr Baumgärtner. Auf Wiedersehen.

Genève, sortie 12, appel à 18 h 30. Bon voyage, Madame Jaquenoud!

Il suo volo per Genova sarà chiamato all'uscita 11. Comunque buon viaggio. Ultima chiamata alle 15 e 5.

Da, bitte Herr Gerstner, isch iri Ystigcharte für Hamburg, Usgang 4, am feuf vor halbi achti.

Sie haben noc bis Ihr Flug na Ausgang 12 un ausgerufen wi

Have a good flight to Khartoum. Your flight will be called at 12:05, Gate 4.

Mettez le certificat de vaccination dans le passeport. Très bien, merci. Pour Kinshasa, appel à 21 h 30.

Here's your boarding card, Mr. Sörensen. Copenhagen will be called at 15:40, Gate 13. Good-bye.

De Flug uf Köln wird grad jetzt usgrüeft, Usgang 10, guete Flug.

Yes indeed, we fly a DC-10 to Lagos. Gate 8. Good-bye and have a good time.

Cette cloche de sûrement vos Libreville, sorti 11 h 55.

Your flight to Manchester will take just under two hours, and will be called at 18:55, Gate 5.

Ah, je vous envie la bouillabaisse, Mademoiselle Fanny. Pour Marseille, sortie 3. Bon voyage!

Su vuelo para Manila será anunciado a las 12.35 h en la salida No. 10, hasta la vista.

Monrovia will be called at 11:55. Please stop by at the seat selection counter. Good-bye.

Vous avez tout cela ici: vol 160, sortie 7, appel à 11 h 15, destination Montréal. Bon voyage!

Il suo volo per chiamato alle 1 ta 14. Buon vol

Your flight to Oslo will be called at 12 o'clock. Au revoir.

Si, si, volaremos hasta Palma de Mallorca sin hacer escala, el vuelo será anunciado a las 13.55 h.

Senhora Ribeiro, sua documentação. Seu vôo Paris será chamado às 14.30 h. Obrigado e até a volta.

Si, a Praga è in vigore l'ora svizzera. Il suo volo sarà chiamato a minuti, alle 7 e 35, uscita 10.

Iri Ystigcharte, Fröilein Stettler, und s'Bilet mit de Gepäckzädel nach Rio, schöne Flug.

Prego Monsign per Roma sarà 7 e 15. Le augu

Was, Sie chömed mit em Velo zrugg? Vil Vergnüege – Stuttgart wird am halbi nüni am Usgang 5 usgrüeft.

Vlak na de roltrap rechts is de Tax-free shop. Maar mis uw vlucht naar Teheran om 21.30 uur niet. Tot ziens.

Here's your ticket with baggage check and your boarding card for Tel Aviv. Have a good flight.

Yes, Mr. Wakayama, you'll only have one stop on your Tokyo flight. Sayonara – is that the word?

Of course you'll have time for coffee, your flight to Tripoli won't be called until 12. Good-bye.

Il fait sûremen Tunis, vous ve Bon voyage!

alled at 11:40.
rget to make
ction. Have

Avez-vous votre visa? Le vol pour Alger sera appelé à 11 h 20, sortie 13.

De vlucht naar Amsterdam wordt over 10 minuten omgeroepen. Uitgang 9. Goede reis.

Athen ist Ausgang 2. Der Flug wird um 11.50 ausgerufen. Auf Wiedersehen Herr Nomidis.

Your flight to Baghdad will be called at 12:05, Gate 4. Thank you.

Signor Fumasoli, il suo volo per Bangkok sarà chiamato alle 12 e 20 all'uscita 3. Arrivederci.

halbi feufi
usgrüeft,

Voici votre carte d'embarquement pour Beyrouth. Sortie 5, appel à 15 h.

Belgrade, Gate 10, 11:50, here are your two baggage checks. Have a good flight.

The bus for Berne leaves from over there in ten minutes. Bon voyage.

Your vaccination certificate is in order, Bombay is Gate 8 and will be called at 12:20.

Passport check just to the right, your Boston flight will be called at 11:15, Gate 8.

flight for you
rother to
called at 11:15.

Colombo will be called at 14:55. Before proceeding to Gate 3, please select your seat.

Hier ist Ihre Einsteigekarte nach Dakar, Herr Bury, um 22 Uhr wird Ihr Flug am Ausgang 2 ausgerufen.

Damas, sortie 14, appel à 12 h 05. Bon voyage!

Of course you can choose a seat in the non-smoking compartment! Have a good flight to Dar es Salaam.

Pour Douala, sortie 5, appel à 11 h 55. A bord, notre nurse s'occupera de vos enfants. Bon voyage à tous!

etwas Zeit,
ch Helsinki am
19.05
rd.

Now all you need is to choose your seat at the seat selection counter. Hong Kong will be called at 12:20.

Istanbul will be called at 15:15. Have a good flight home, and try to keep some chocolate for your kids.

Uw vlucht naar Johannesburg wordt over een half uur omgeroepen. Uitgang 8. Goede reis en tot ziens.

Vd. llega justamente a tiempo, a las 12.05 h será anunciado el vuelo para El Cairo. Hasta la vista.

Our DC-10 flight to Karachi will be called at 16:45, Gate 6. Have a nice trip.

vache effrayera
amis! Pour
e 10, appel à

Voilà, sortie 12, votre vol pour Lisbonne sera appelé à 11 h 35.

Schönen Gruss an London, Herr Rogosky, Ausgang 9, Ausruf 17.15; guten Flug. Bye, bye!

Aqui está marcado en la tarjeta: su vuelo para Madrid será anunciado a las 12.35 h, salida No. 12.

Certo, Signor Suter, sul volo per Milano le verrà servito uno spuntino. Uscita 14. Arrivederci.

Después de parar en Ginebra, el avión seguirá hasta Málaga sin escala. Su vuelo en la salida No. 12.

Mosca sarà
e 15 all'usci-

Natürlich Herr Wanninger, Sie können auch an Bord Bier bestellen, München wird um 19.30 ausgerufen.

Here's your boarding card for Nairobi; it's a DC-10 flight and will be called at 21:30.

New York — alle 11 e 20, uscita 6, proprio di fianco al banco prenotazione posti. Signore, la sua biro!

Thanks a lot for the compliment, but don't forget that your flight to Nicosia will be called at 15:15.

Nizza, Frau Müller, wird um 15 Uhr ausgerufen. Schöne Ferien.

ore, il suo volo
chiamato alle
ro un buon volo.

Salzburg, das ist ein 55-Minuten-Sprung, Ausgang 12, 12.25; auf Wiedersehen, Herr Schmid.

Santiago de Chile es el vuelo No. 204 con DC-10, aquí lo ve Vd., salida No. 7, 21.30 h. Buen vuelo.

Senhor Andrade, última chamada. Swissair 200 para São Paulo, embarque imediato, portão 7 Boa viagem.

You've got lots of time; the flight to Singapore will be called at 14:50, have a good flight.

Only a Scandinavian could say such nice things; well, then, Stockholm is Gate 10. Good-bye.

tres beau à
rez. Sortie 3.

A Varsovie, il faut voir la vieille ville. Votre vol sera appelé à 12 h 15. Au revoir.

Tante grazie, Signor Martorelli, il suo volo per Vienna sarà chiamato tra poco. Uscita 12. Buon viaggio.

Zagreb, Zagreb, salida No. 12, el vuelo será anunciado a las 11.50 h, hasta la vista.

Bahnhofstrasse? I'm sorry we can't fly you. But the bus outside will take you there in 15 minutes.

SWISSAIR

GGK

BRAZILIAN RA
POSE

ILWAYS
A CHALLENGE

IN the field of surface transportation, the Second National Development Plan (the five-year plan) places the heaviest emphasis on the system which serves the all-important triangle: Rio de Janeiro — São Paulo — Belo Horizonte. In this economically important area, the Government has resolved not only on priorities, highlighted by the triangle, but on total recuperation of the Brazilian railroad system — an item which since 1964 has been the Ministry of Transport's main worry. Why? Because in 1964 the mentality, the basic principles of administration, have undergone a complete change — for the country's benefit.

ADF 251.158
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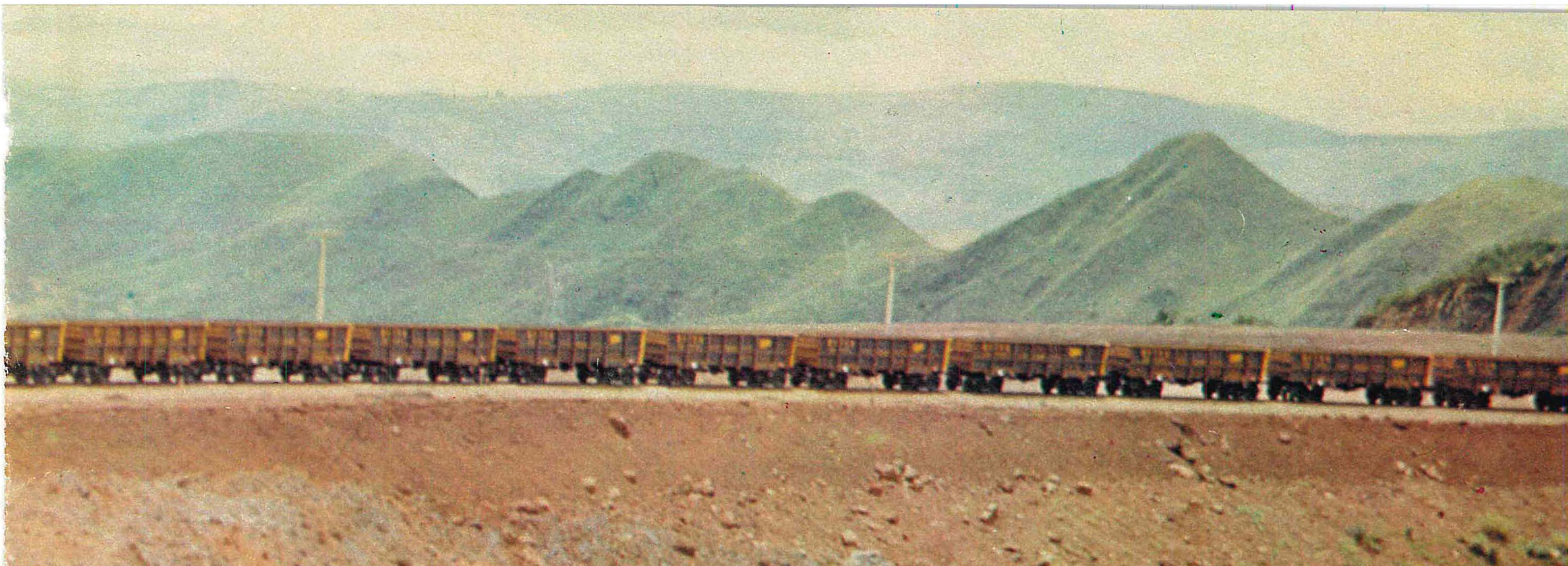


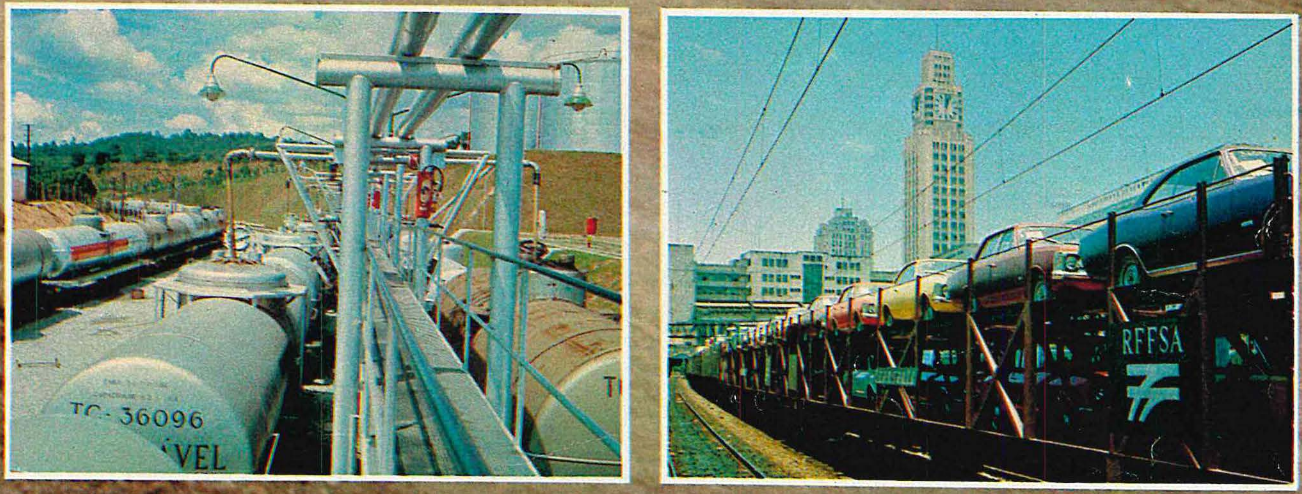
Rails buzz as progress spreads throughout the national territory via the Brazilian railroad system

THE years preceding national development, in every aspect of progress and human endeavor, have given place to most serious thinking and planning. The country's accelerated pace of industrialization and the corresponding growth of national economy would not — could not — permit further delays in implementing the Railways Program, boldly expounded in the Second National Development Plan, backed by a budgetary allocation of 30.5 billion cruzeiros (about four billion U.S. dollars).

THE FEDERAL RAILWAYS SYSTEM ● As of 1969, the Federal Railways System began to mean what its name implied since its creation during the last century. In that year, the System began restructuring its own organization and that of the nation's railroad networks. It started out by eliminating a number of autonomous rail lines, grouping them into 14 divisions of four major regional systems: the North-East, the Central system, South-Central and Southern, extended over 24,064 kilometers of rails.

This grouping of old and antiquated systems clearly indicated major improvements, mostly operational, which could be substantiated year after, statistically and otherwise. For instance, the payloads had increased substantially and the deficit, last year, had reached the lowest percentage; the top-heavy payroll decreased from 154,000 payees to 113,000. And the Federal Railways System, with subsidies, of course, was able, in a long, long time to meet its financial obligations.

Perhaps the major indicator of the results achieved was the fact that goods transported in 1974 had shown an increase of 28.6 per cent over the previous year. This significant increase was, unquestionably, due to a boost in iron ore exports via Rio de Janeiro and Sepetiba (Águas Claras) ports, as well as exports of such agricultural commodities as soybean, wheat — in interport traffic, corn, cement and oil products.



The Brazilian Federal System plays an all important role in transporting basic materials in ever increasing volumes. Iron ore for export, the fount of our foreign exchange, liquid fuels which serves regions of the vast hinterland and all types of vehicles leaving our factories are among the principal items transported by rail.

In the personnel department an intense activity is always under way with training programs, apprenticeship, specialized courses and vocational training

ADDITIONALLY, all measures had been adopted to concentrate "on railway operations," transferring to other organs and agencies operations not directly connected with rail transportation activities.

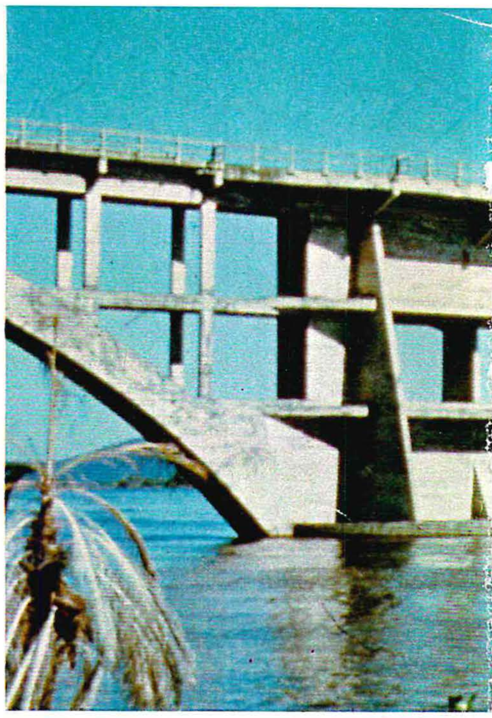
Subsequently, a new subsidiary had been set up — The Railroad Engineering Company — which now became responsible for projects, construction and inauguration of new side lines, even new rail links, such as the São Paulo — Belo Horizonte (834 kilometers) railroad, recently authorized by the Federal Government and whose construction is already under way.

WORK WITHOUT TRUCE ● The best example of the new mentality now prevailing in regard to the present-day railroad development projects in Brazil was recently expressed by the Minister of Transports when he had begged construction firms, contracted by the Government, "to forget Sundays and holidays." He was referring, of course, to the top priority construction job on the Belo Horizonte — São Paulo new trunk line, called the Steel Line, because it would supply abundantly São Paulo industries with Minas Gerais (of which Belo Horizonte is the state capital) iron ore.

This essential rail link, between the world's greatest iron ore deposits and South America's greatest industrial establishment, is scheduled to become fully operational by 1977, two years from now, even though all contractual arrangements allow for a four-year construction period!

Luxury trains, provided with every means of comfort and security, link all principal urban centers, from North to South. Passenger service aboard these trains is executed by a well trained personnel, on par with the best international services.

No other means of transportation offers more possibilities for diversified tourism than the railways. Additionally, the railroads serve national integration and are the principal means of transporting heavy cargo



A stretch of 397 kilometers of this new "life line" or a "bloodstream line" — as one may prefer to call it — will have 197 tunnels, totaling about a hundred kilometers, 129 bridges and overpasses (some 41 kilometers) — a construction job of mammoth proportions within the time specified for its completion. But of late, Brazil is getting used to mammoth enterprises! The new line will be a wide-gauge (1.6 meters) railroad, with a maximum elevation rate of one per cent and curves radiuses of not less than 900 meters. And it will be totally electrified. This will be the first railroad constructed in Brazil with such specifications and characteristics, which will enable it to haul enormous iron ore compositions (a kilometer long) at considerable speed under maximum safety.

Initially linked to, or thought of, in terms of the national steel expansion program, this new railway will add 511,000 tons annually to our steel production capacity, hauling over its roadbed 28 million tons of iron ore, pellets, and other diversified cargoes.

EXPORT CORRIDORS ● Aware of transportation facilities being an integral part, the corner stone, of progress and development, the Brazilian Government created the so-called Export Corridors, also referred to as Transport Corridors. Previously, this applied only to the Rio-São Paulo traffic. The expression originated from an old need to get goods moved as rapidly and efficiently as possible from source of production to the consumer market, considering the prevailing commodity prices and speed of delivery.

Subsequently, the highways, the railroads, sea ports and inland waterways began to take part in the overall scheme of Export Corridors, culminating in a vast, integrated plan of moving cargo — en masse — from one point to another, specifically grain cargoes.

During the last couple of years, the Export Corridors assumed special significance for the national economy and the export trade. In addition to a highly efficient Export Corridor now existing in Rio Grande do Sul, the champion state soybean and wheat production, other "Corridors" have been designated and are now fully, or almost fully, operational.

Within this scheme, the Brazilian railroad networks have been called upon to exercise ever greater roles, especially when it comes to transporting commodities such as agricultural produce destined to foreign parts, via the principal maritime outlets of the nation.

First line commodities destined for exports are soybean from Brazil's southern states, corn from the midlands, sugar from the North-East, cotton from various states and regions. To cope with this traffic, and the better to serve regional requirements, the Federal Railways System had to do a lot of reorganizing and remodelling.

The Port of Paranaguá is serving, for exports, the states of Paraná, Santa Catarina and southern Mato Grosso, in addition to a traffic flow that converges upon that port from many other points of the compass, including Paraguay, which has no sea outlet but which was granted "a free port" status in Paranaguá by its magnanimous neighbour — Brazil.

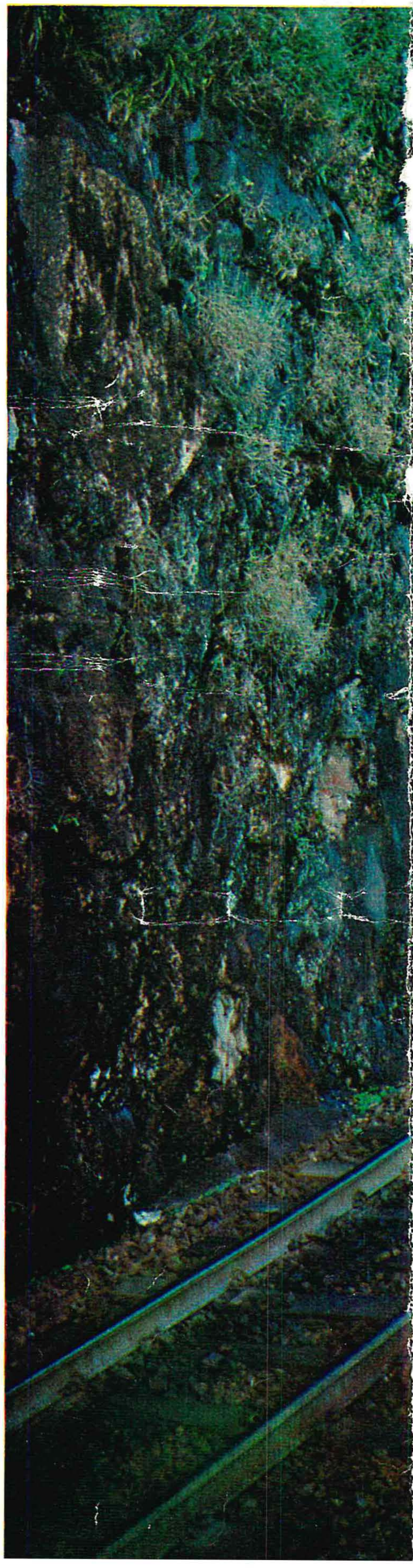
Santos serves essentially a two-way maritime traffic, exports and imports. But, because it is the most natural outlet for Brazil's most industrialized state, it needs total reequipment of its port facilities.

Another "Corridor," Vitória, the state capital of Espírito Santo, serving, as an outlet, the states of Minas Gerais, Goiás and even Mato Grosso, required less reequipment investment than most, simply because it had always been the main link between Belo Horizonte and the world's greatest iron ore export terminal which now is Porto de Tubarão.

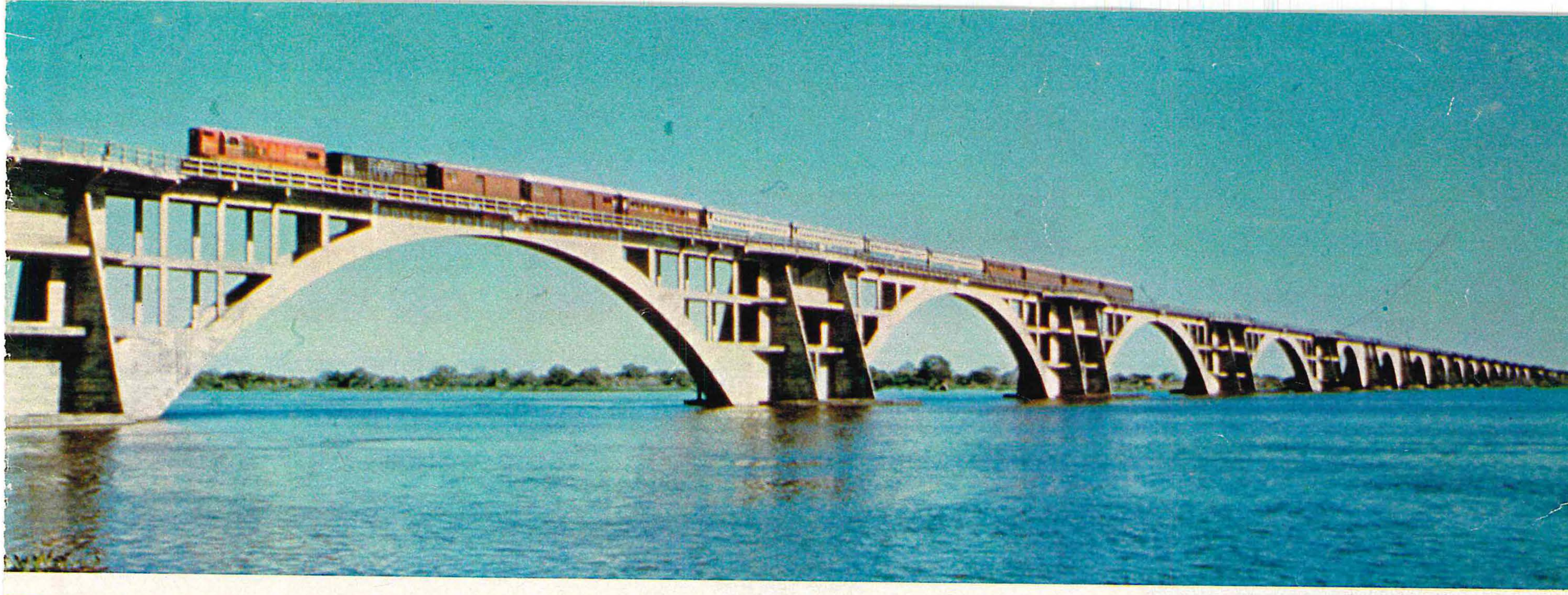
Reequipment and Results ● The investments in the Brazilian Railways Development Program are divided into 14 sub-programs and 70 different projects. These consist of expansion programs, modernization of the networks and acquisition of railroad transportation material, expansion and inter-connections between the above mentioned Export Corridors, the construction of new trunk lines (Belo Horizonte—São Paulo) and new terminals with view to vastly expanded warehousing facilities. Also much remains to be done in research, surveying and studying of how the Brazilian railways can best serve national progress and development.

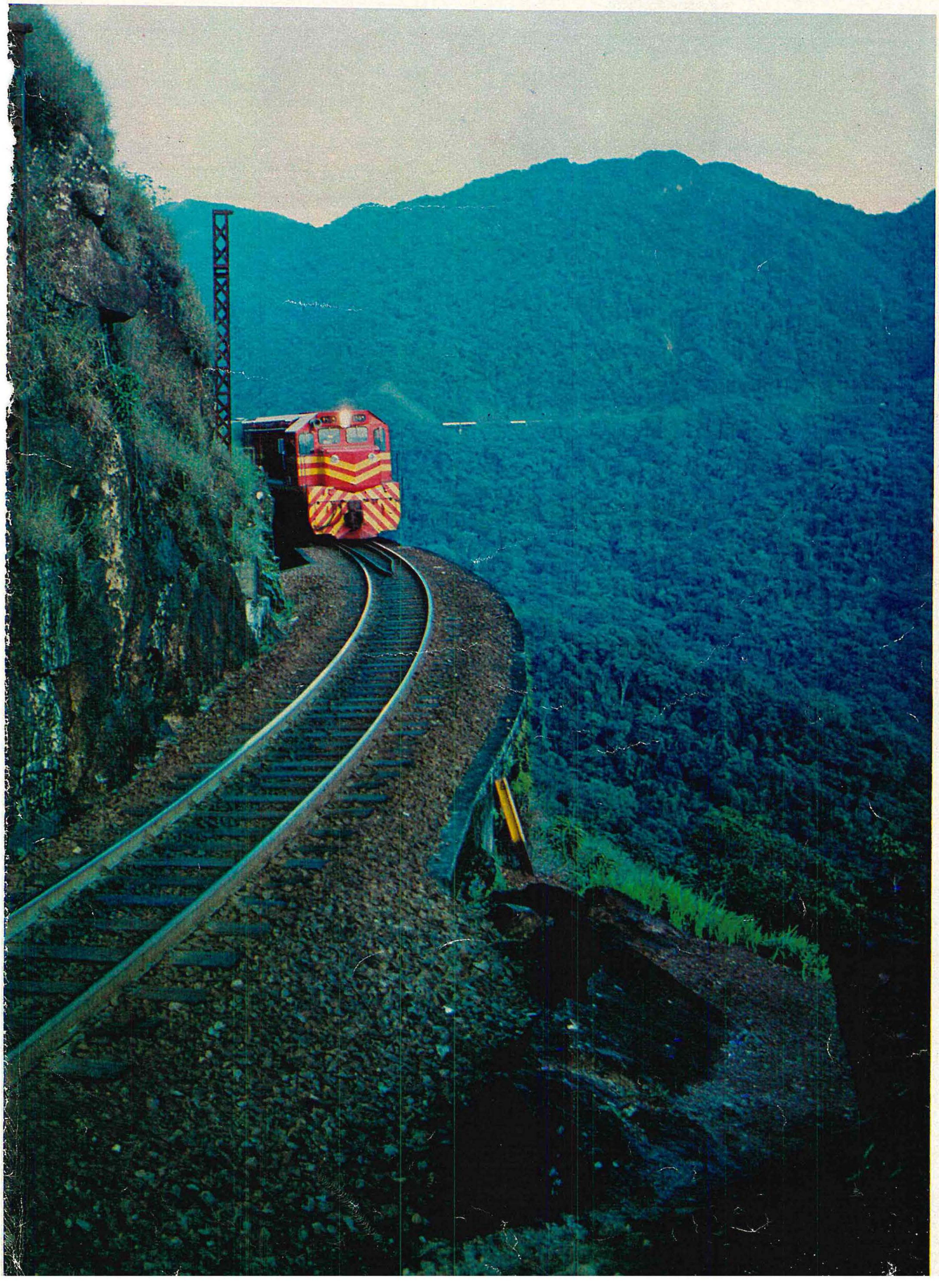
During the next five years, with resources already allocated, 3,800 kilometers of new rails will be laid down, and 10,800 kilometers of existing lines will be improved and modernized; 1,439 railway lines will be electrified during the coming years, and most of the narrow-gauge systems altered into wide-gauge to permit integration, this to extend over 3,200 kilometers. The Federal Railways System is planning to acquire 20,000 new railroad cars; 298 locomotives; 70 train compositions and 170 special passenger cars, in addition to renewing thousand of kilometers of rails and reinforcing railbeds. Of the total envisaged for the next few years, the Federal Railways System has already placed orders for 14,100 cars and 196 Diesel-electric units, these to be supplied by national industry, in an eloquent demonstration of confidence in the capability and efficiency of the national industry in this specific field.

The Federal Railways Mission ● The Federal Railways System has



For tourists who like to feel and enjoy something different, the Brazilian Federal Railways System offers various options and alternatives, such as, for instance, semiarid landscapes of northeastern Brazil or vistas still comparable to a jungle in Mato Grosso, where huge bridges cross great rivers in the foothills toward Bolivia.





been entrusted with a program that must be realized with a specified period of time that would stagger imagination. It must, first of all, comply with the directives for expansion, modernization and the building of brand new trunk lines; it must launch a vast personnel training program; it must, finally and most importantly, regain public confidence in the efficiency of rail transportation, in competition with other, much advanced and publicly favored modes of getting from here to there.

With the Railways Development Program duly executed, all existing transportation systems in Brazil will virtually be doubled before the year 1980, with an additional 50 per cent increase by the year A.D. 2000.

The Brazilian Federal Railways System was born by a Government Decree of March, 1957, as a mixed (government and public participation) corporation, governed by a president and six directors. It was then administering a network of 24,064 kilometers of rail lines, with 1,439 locomotives and a total of 33,439 cars of all types and descriptions, with 113,000 people on its payroll.

Said the President of the Republic, launching the Second National Development Plan:

"Our Railways Development Plan, designed for the next five years, envisages our railway's capacity to transport 260 million tons of goods which calls for an increase of 140 million tons as compared with our railroads' present capacity.

"From here on, there is a tremendous job, a challenge, confronting us all. But, because we all recognize the importance of railway transport, and the challenge — which we accept — we shall succeed."

METRO
THE SUBWAY
ITS PROGRESS CANNOT STOP!

trem para
Jabaquara
saída

The North — South subway system of São Paulo, which became operational last year, carries an average of 1.5 million passengers daily, contributing to better traffic conditions on the surface. São Paulo vehicular traffic is one of the densest in the world.

THE "Paulistanos", the people who live in Greater São Paulo, already have at their disposal 11 kilometers of Metro — or subway transportation — which affords thousands to travel in comfort and speedily from the proximity of the Congonhas Airport to Liberdade, almost in the city center, via Vila Mariana and Paraíso, important and densely populated suburbs. By 1980, the "paulistanos" will have at their service an additional 25 kilometers of subways, once the East-West network become operational. This new São Paulo subway system, the cost of which has been budgeted at about 900 million dollars, or close to 7 billion cruzeiros at the prevailing rate of exchange, will surpass the total state treasure receipts for 1974. The idea being that this new subway system should compete with surface automobile traffic in transporting millions of "paulistanos" and to discourage the use of private vehicles which, in turn, will reduce automotive fuel consumption and, simultaneously, alleviate traffic congestion along the most important São Paulo vehicular traffic arteries.

CERTAIN THEORIES SHOULD BE A LITTLE MORE PRACTICAL AND A LITTLE LESS THEORETICAL

Two years ago we admitted quite frankly and boldly that there were some things our competitors did better than we.

Today the picture isn't any different.

We continue not to be experts in matters related to commercial banks, finance agents or brokers, investment bank or funds. Our line of business is Real Estate credit and the results show our outstanding performance in this field. Thousands of buyers of houses, apartments, shops and offices of all kinds, financed by us, up to 30 years, are paying monthly instalments which are lower than rent rates. We also made possible the building of hospitals, schools, universities, supermarkets and shopping centers which in short time will be serving a community of nearly 20 million people.

Our assets, represented by loans, have already reached more than US$ 425,000,000.00 and are totally guaranteed by mortgages on real estate with assured liquidity representing a market value of US$ 1,000,000,000.00.

We have conquered a position which we are proud of, and one which provides us with incentive without any pretentions of being a finance supermarket. The asset figures place DELFIN side by side with the top ten institutions of the country's capital market. This can only happen to one who has gained the public's confidence and has the persistence and dedication of staff and employees. And to be one track minded has its rewards!

The number of depositors in CADERNETA DE POUPANÇA DELFIN (Savings Accounts) has surpassed 450,000.

This gratifying preference of the public is also reflected in LETRAS IMOBILIÁRIAS DELFIN (Real Estate Bonds): with 106,173 investors.

This is the natural result of our zeal in the application of funds which are entrusted to us by the public and the BNH (National Housing Bank).

When we started operating eight years ago, theoreticians maintained that there was no talent available in Brazil to manage real estate loans.

But with a total networth amounting to US$ 35,642,000.00 we can now challenge those "prophets", demonstrating that certain theories should be a little more practical and a little less theoretical.

DELFIN S.A.
Crédito Imobiliário
Av. Paulista, 1159 – São Paulo
Tel.: 289-2185

DELFIN-RIO S.A.
Crédito Imobiliário
Av. Rio Branco, 151 – Rio de Janeiro
Tel.: 242-8055

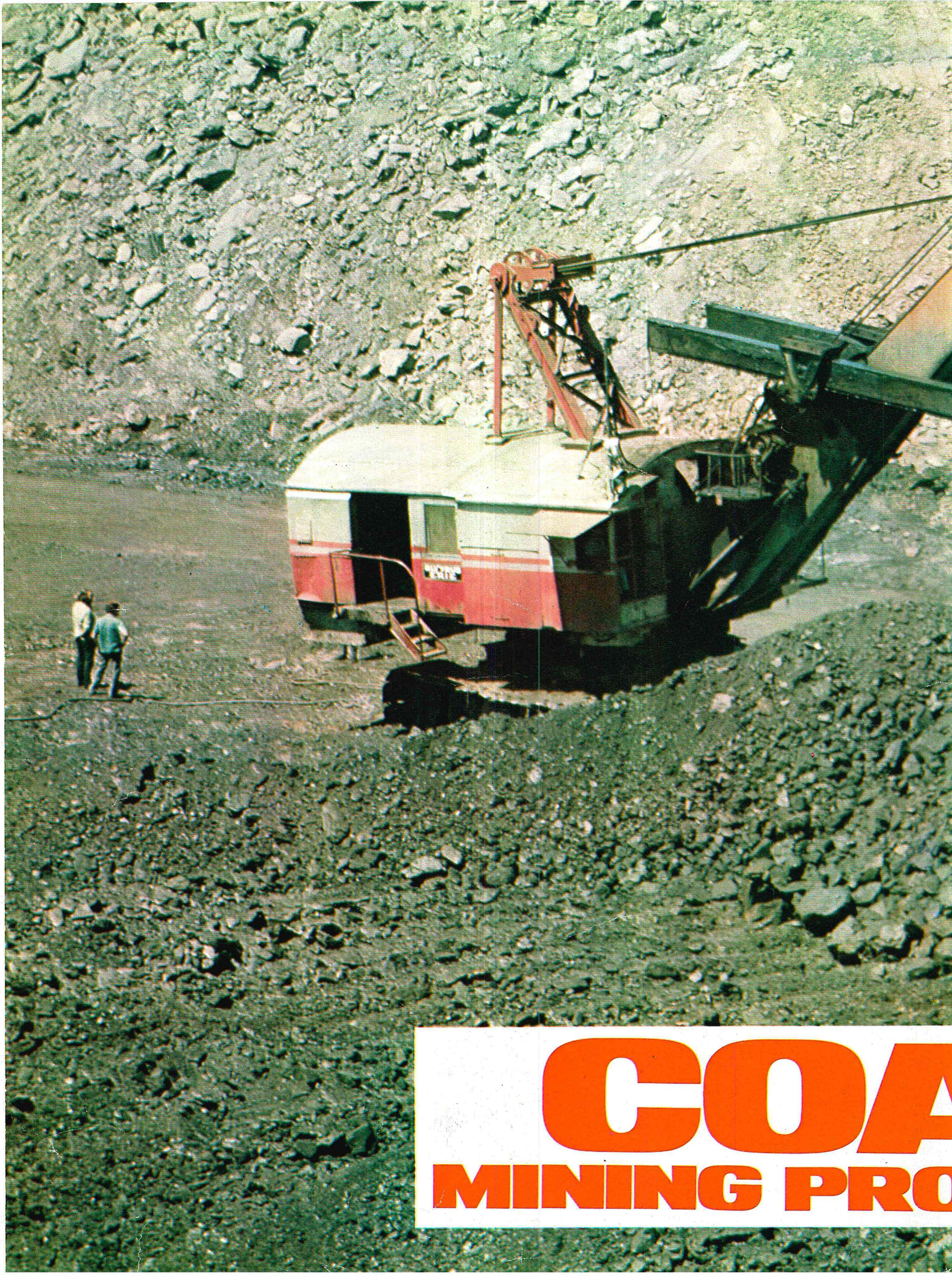
Belgravia

ASSETS OVER US$ 425,000,000.00
CAPITAL & RESERVES OVER US$ 34,000,000.00

RTE-SUL
GO
PSO
ANR
VMN
SCZ
ARV
SAU
JUD
CON
Paraíso
Ana Rosa
V Mariana
Santa Cruz
Pç Árvore
Saúde
S. Judas
Conceição

The East—West São Paulo subway system will serve more than 100 localities with a capacity to transport two million passengers

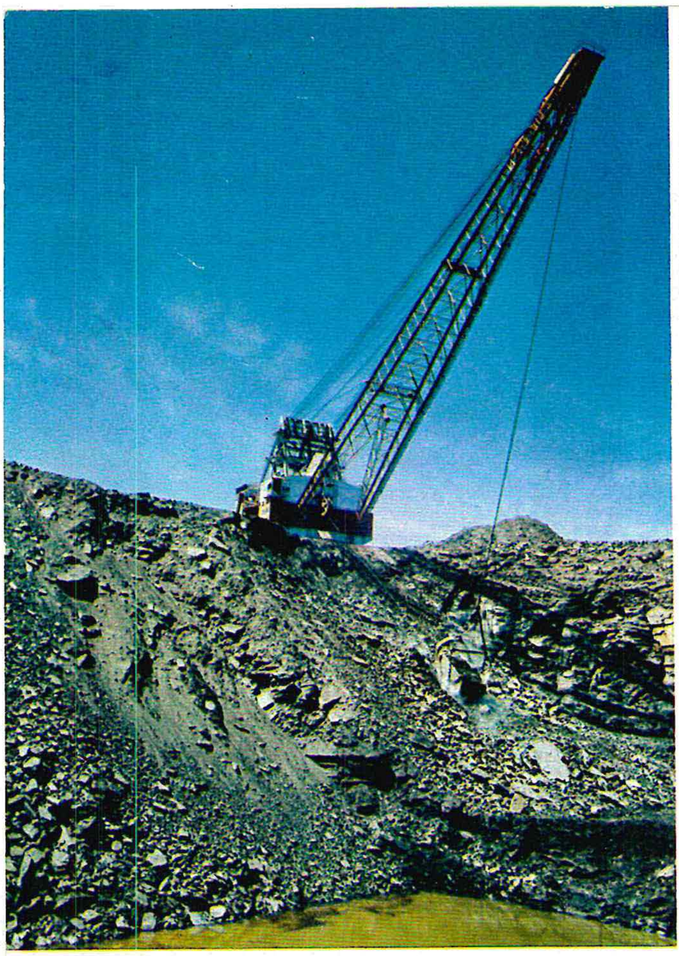
IN order to have an idea of the importance of São Paulo East — West subway system to be inaugurated within the next five years, it is sufficient to know that it will be passing through a city area within which live two and a half million "Paulistanos" in a hundred localities. The total daily capacity of the new subway will be two million passengers, but the immediate demand, it is estimated, will equal that of North — South line which is already functioning and which is transporting one and a half million people daily. The East—West subway system will use in certain parts the Federal Railways roadbed — but not the rails. For a perfect integration between São Paulo suburban train services and the subway systems four huge terminals will be built, to facilitate transfer of passengers from train to subway and vice versa. These terminals will be at Itaquera, Tatuapé, Brás and Lapa.



COA
MINING PRO

AL
OGRAM

WITHIN the Second National Development Plan, coal production assumes priority status in the Brazilian Government policy to increase all sources of energy. The Coal Program, which is part of the Plan, provides for modernization and expansion of coal mining, including research for the utilization of coal, as raw material, in industrialized products and sub-products such as sulfuric acid production and pig iron. Greater utilization of national coal reserves for energy has been counseled by scientists and technicians for some time past. Brazil's coal reserves are estimated at 3,289,063,000 tons in 14 deposits in Rio Grande do Sul, Santa Catarina and Paraná.



Brazil produces annually more than six million tons of coal. A larger production is called for because of high ash percentages of Brazilian coal, of which no more than one half of total production is being profitably utilized.

Government objectives call for increased coal production through greater mechanization and centralized administration of mines

THE State of Santa Catarina is Brazil's largest producer of coke producing coal. The coal deposits extend from South of the city of Criciúma to North of Orleães. The principal coal vein, 1.70 meters high, has about 40 per cent of all the coal in the region and is called Barro Branco. Increased coal production is receiving close government attention due to the fact that the expanding steel industry will require ever larger supply of coke. Brazil being a large importer of coal from the United States, even a slight drop in U.S. coal exports would immediately and automatically reflect adversely upon our basic industry. Even though Brazil has large coal deposits, its quality is far from the best. In Rio Grande do Sul, for instance, the quantity of ash is between 39.6 and 53.6%; in Santa Catarina it's 29.5% and in Paraná 22.14%. Brazilian coal production already exceeds six million tons annually, but only half of it is being utilized by industry.

RESPONDING T

Banco do

HAVING successfully passed the Hundred Billion cruzeiro-mark in banking operations at home, an achievement which might be compared with an aircraft crashing for the first time through the sound barrier, Banco do Brasil is now a prominent name in the world of finance on the international scene.

In its spectacular expansion program in recent years, the Bank now occupies world leadership in rural financing; it has become the Number One financial institution of the southern Hemisphere, and is today one of the thirty strongest, most reliable and efficient banking institutions of the world.

Its branch offices throughout Brazil now number nearly one thousand. They are strategically located, 60 per cent of them in regions supported by governmental development programs. In these so-called "problem areas," the Banco do Brasil is playing a most significant role, that of a benefactor, in a sense, because in these areas loans definitely exceed deposits. This may seem strange, from the point of view of banking operations, but only at first glance. In these mostly remote rural regions the Bank is striving to encourage production and the purchasing power of the rural population, thus creating new markets for goods manufactured in the industrialized zones.

THE AWAKENING OF A GIANT ● It was the end of the year 1807. Without possibility to withstand the onslaughts of Napoleonic hordes, the Prince Regent of Portugal had decided to move, with his entire court, to Brazil which was then only a Portuguese colony.

The arrival in Rio de Janeiro of the imperial family and the establish here of the Imperial Court signified the beginning of a brand new era for Brazil with everything that the decisive move represented — political autonomy and consolidation of a far-flung colonial empire into a nation.

The Prince Regent, Dom João, lost no time in adopting measures that would influence and change the course of history of Brazil. Among these measures was the opening of Brazilian ports, in 1808, to foreign shipping; the lifting of restrictions which had hitherto applied to

The Banco do Brasil is a mixed enterprise. The Federal Government is the majority shareholder. Above, the traditional main office in Rio

O A CHALLENGE

Brasil on the world scene

the establishment of factories, and thus the age of industrial liberty had been ushered in. And it was the Prince Regent who had established the Banco do Brasil — a central banking institution which not even Portugal, the Mother Country, possessed at the time. It was the world's fourth bank (after Switzerland, England and France) to emit national currency.

Thus, even before the Declaration of Independence, the Banco do Brasil began contributing strongly toward international trade and commerce.

The Bank's first phase of existence was closed on September 29, 1829, seven years after the Independence.

Not until 1838 was the first private bank established in Imperial Brazil: The Commercial Bank of Rio de Janeiro.

The second private bank appeared in 1851. Its name: Banco do Brasil. Its capital exceeded that of any other corporation then existing in South America.

In 1853, Minister Joaquim José Rodrigues Torres — who later became the Viscount of Itaboraí — introduced the idea of founding a national bank with exclusive authority to emit currency and had the two private banks merge.

THE FIRST STEPS OF THE NEW BANK ● The new Banco do Brasil commenced operations on April 10, 1854, at a time when national economy began assuming important proportions, including the building and launching of Brazil's first railways and many other pioneering public works.

In 1906 the Bank was transformed into a mixed economy enterprise (which, under the Brazilian laws, meant that, in addition to government holdings, private interests could participate in the enterprise). Presently, more than 200,000 shareholders make up the corporation. The Federal Government, however, remains the majority shareholder.

THE MONEY CIRCULATES ● At the end of 1974 the Bank's loans had an increase of 81.3 per cent over the 1973 total. The loans were divided into following sectors: agriculture — 39.7 per cent; industry — 31.3 per cent; cattle raising — 12.2 per cent and other fields — 11.2 per cent, totalling more than 80 billion cruzeiros. Significantly, loans to the private sector were in excess of 90 per cent of the total. Loans toward public works represented only 5 per cent.

The worsening inflationary trends on the international scene had prompted the Government to utilize the Bank as its arm of fiscal control, as the Bank's lending capacity regulates available credit.

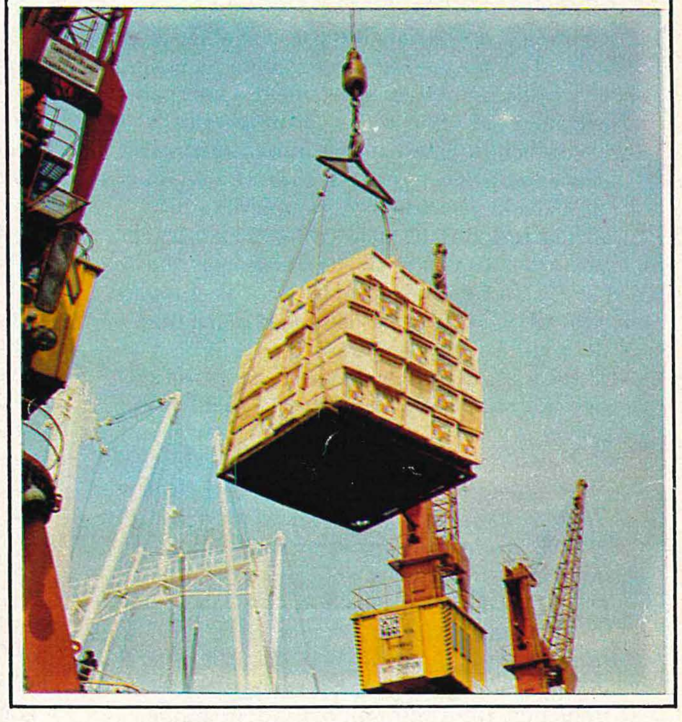
Rural activities have merited the Government's special attention in recent years, with view to encouraging agricultural production at company levels. The objectives in this sector are plainly stated: increased production, higher returns to the farmers and ever rising outputs of foodstuffs and raw materials at reasonable prices. Excess production for export, to gain the much needed foreign currency, is highly encouraged.

The Bank's lending capacity is directly linked to the Second National Development Plan. In this respect, the Bank had opened new credit lines of its own or as agent for outside funding.

In the industrial sector, total 1974 loans had registered an 88.7 per cent increase in relation to the previous year. And, for a country of so many needs and demands in this era of development, it is of profoundest importance that the Bank's financing should mostly go towards strengthening industries engaged in food production (19.9 per cent of the total).

O DO BRASIL S.A.

and a modern building of departments.



BANCO DO BRASIL

At high, the Banco do Brasil office in Tokyo, Japan. Above, the office in Amsterdam, Holland. Through the Cacex, the bank controls and stimulates the brazilian exportations.

THE Banco do Brasil foreign installations are now more than twenty

BANCO DO BRASIL
BANCO DO BRASIL
DANISH

Above, at left, the agency of the Banco do Brasil in New York, and at right in Hamburg, Germany. The international projection of its name serves to setrengthen the brazilian economic relations world-wide and facilitates Brazil's exports as well as imports.

In general, the Bank's attention is currently focussed on domestic as much as international problems, as far as they concern national production and outlets for manufactured goods. There are many examples: a special credit line enabled our instant coffee industry to maintain its position in world commerce; construction companies engaged in public works, producers of construction materials for public works and private construction have been the recipients of loans in a national home building drive. Credits opened in favor of Gold Certificate bearers (part of the Golden check system) have risen by 73 per cent in 1974, as compared with 1973. Export financing had more than doubled for the comparative periods.

The Bank's net profit last year had reached two billion cruzeiros, double of that for the previous year.

The results of the Bank's international operations have been excellent. The Bank's foreign branches had produced a gross profit of US$ 57.4 million, or more than 40 million dollars after taxes.

THE FOREIGN NETWORK ● The Bank's first foreign branch began functioning in Asunción, Paraguay, in 1941. In 1974, with the inauguration of Milan and Amsterdam branches, the sub-branch in Koeln and an agency in Frankfurt, the Bank's foreign installations totalled 20. Paris, London, Hamburg, Lisbon, Madrid, Tokyo, New York, San Francisco, the Mexico City, Buenos Aires, La Paz and Santa Cruz de la Sierra, Santiago (Chile), Montevideo, Panama compose the Bank's foreign network. The number of the Bank's branches will be increased during 1975, to include Beirut, Caracas, Cochabamba, Stockholm, Los Angeles, Puerto Presidente Stroessner, Rome, Rotterdam and Toronto. The expansion program of the Banco do Brasil will, in the near future, include many other cities in the Americas, Africa, the Middle East and Australia.

The internacional projection of the name of the Banco do Brasil serves to strengthen our country's economic relations world-wide. The Bank also facilitates Brazil's exports as well as imports.

Obviously, the time has arrived for the Banco do Brasil to start looking for new fields to conquer. This will mean — already does — a more agressive, dynamic policy. This will mean the establishment of many new branches in foreign lands, especially in the world's traditional financial centers, in order to be able to compete, on equal terms, with the world's largest and strongest financial institutions.

The Banco do Brasil's appearance on the world scene and the financial markets of the world is, additionally, made possible through international association of banking houses. The European Brazilian Bank Ltd., with a capital of £ 4.2 million, in which the Banco do Brasil participates with 31.9 per cent, was but the first step, in 1971. This was followed by the Brazilian-American Merchant Bank and the "Compagnie Arabe et Internacionale d'Investissement" in Luxemburg.

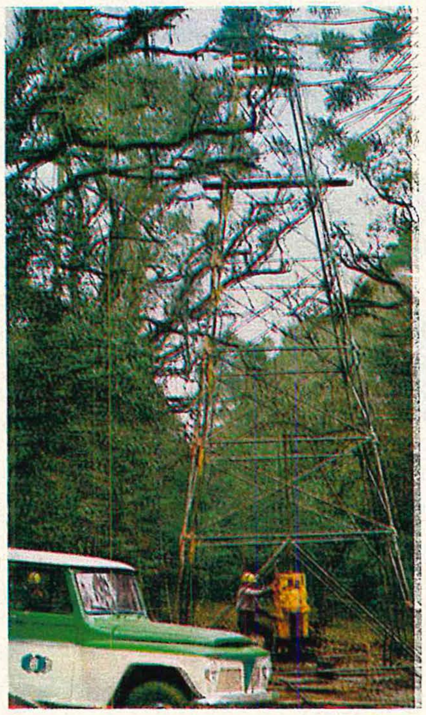
In 1974, joining forces with the strongest European and Latin-American financial institutions, the Banco do Brasil participated in founding a new, powerful multi-national banking establishment, the Eurolatin-american Bank, Ltd., having subscribed 6 per cent to its capital of 12 million pounds sterling. One of the distinguishing features of this new bank is that its resources are always channeled back to Latin America. The Banco do Brasil's most recent entrances on the international scene have been through the Kuwait Pacific Finance Company, Ltd., the Industrial Bank of Japan, the Kuwait Investment Company, the Bank of New South Wales and the Canadian Imperial Bank of Commerce.

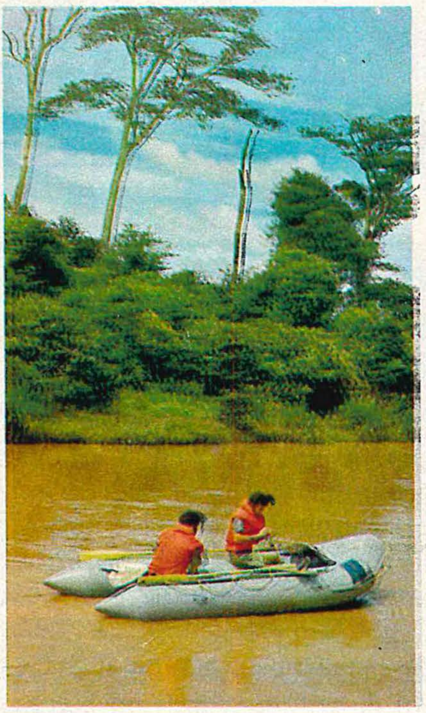
THE NEW FACE OF AN OLD BANK ● In a recent administrative reorganization, in search of adequate means of coping with the Bank's growth, three new directorates have been formed, that of: Finance, Coordination of Rural Credit and International Participation. The objectives of the first two are amply expressed in their names; the third will take care of the Bank's international activities and accentuate the Bank's presence on the world scene.

THE MOST PRECIOUS CAPITAL ● Last but not least, the Banco do Brasil is a virtual training ground of human resources. Private and public enterprises reach out to the Bank for aid and assistance when it comes to matters of staff upgrading and modernization of systems and methods, when brain work is at stake as a company's greatest asset. This is not accidental. It is due to the Bank's traditional policy of personnel training and upgrading. It begins with the recruitment of new employees, aged 18 to 25, from the very first day of their being accepted into the Bank's service, with an additional training program for students looking forward to future employment by the Bank. These youths are given various opportunities as part-time "trainees." Following this traditional policy, the Bank at all times has available a reserve pool and, moreover, it's policy of promotion follows strictly the step-by-step ladder, whereby an employee is expected to assume more and more responsibility as he climbs the promotion scale. Promotion, of course, is strictly by merit. With its own system and training methods, the Bank has already benefited at least 25,000 of its 60,000 employees as graduates of what amounts to high level positions and responsibilities. Many of the Bank's employees have to graduate from the Bank's own training programs, even though they may be — as many are — university graduates.

This far-sighted human resources policy results in capturing new employees for the rest of their creative years, of turning them into the Bank's most loyal and efficient members of the staff spread all over Brazil and the major part of the world.

The Bank's own pension fund, liberal holidays and sickness leaves, combined with every fringe benefit required by the Brazilian labor laws, further contribute to the prestige and position when one says: "I'm with the Banco do Brasil."





this is CPRM

Brazil's largest Mineral Resources Research Company

CPRM – Mineral Resources Research Company – attached to the Ministry of Mines and Energy, was created by Presidential Decree in 1969. Its main purpose was to undertake the enormous task of mapping the country and carrying out basic geological surveys of the various regions. Since then, the company has also been successfully providing specialized technical services in the areas of prospecting and mining, financing mineral exploration, and has been active in mining research.

With a staff over 500 geologists, mining engineers and chemists, CPRM has been responsible for technical services in various projects all over the country, some of them already concluded, others still under way. These projects cover a mapped geological area of more than 3,500,000 km^2.

In fulfilling its main object, CPRM is mapping over 300,000 km^2 of Brazil at a scale of 1:500,000 as well as details of approximately 70,000 km^2 at scales from 1:50,000 to 1:100,000

Mineral prospecting in Brazil demands constantly more widespread use of airborne and ground geophysics. Prospecting, especially by means of airborne geophysics, is rapidly increasing, mainly because the teams working on these projects are being assisted by members of the German Geological Survey, under agreement between the German and Brazilian governments. Their goals are the development of new methods and improved technology.

The CPRM Mineral Analysis Laboratory – LAMIN, already in operation, is responsible for analysis and technical research, and a new Mineral Technological Center – CETEM – is being built at the Rio de Janeiro University Center. The latter's aims will be to make full use of Brazil's mineral resources and develop a national technology.

CPRM is working in specific areas of economic geology, geo-statistics, hydrology, geo-physics, remote sensing and geochemical exploration in carrying out the various studies and prospecting activities commissioned by other government agencies and private enterprise.

For the purpose of promoting better performance and stabilizing the country's economy in the mineral sector, the Ministry of Mines and Energy also enjoined CPRM, in cooperation with the National Economic Development Bank – BNDE, the Superintendency for Development of the Northeast – SUDENE, the Bank of the Amazon, and other state and federal agencies, to establish a financing program for mineral exploration by private companies.

In its role as a financing agency, CPRM is to provide funds for mineral exploration, investigations, and development of technological processes. The objective, of course, is to secure studies and research leading to definitive mineral deposits, the evaluation of such deposits, the economic feasibility of exploitation, new and economic means of mineral processing, and, most important, to develop an economic market. Financing methods are:

a) loans with risk clause, in which the financing agency assumes the risk of lack of sucess;
b) loans without risk clause, guarantor, nor collateral.

Presently, there is no limit on the value of the operation, the investor being obliged to contribute with a minimum of 20% of the total financing.

This is CPRM – Brazil's largest Mineral Resources Research Company, operating in one of the country's most important economic sectors, within the federal government's policy of promoting Brazil's overall development.

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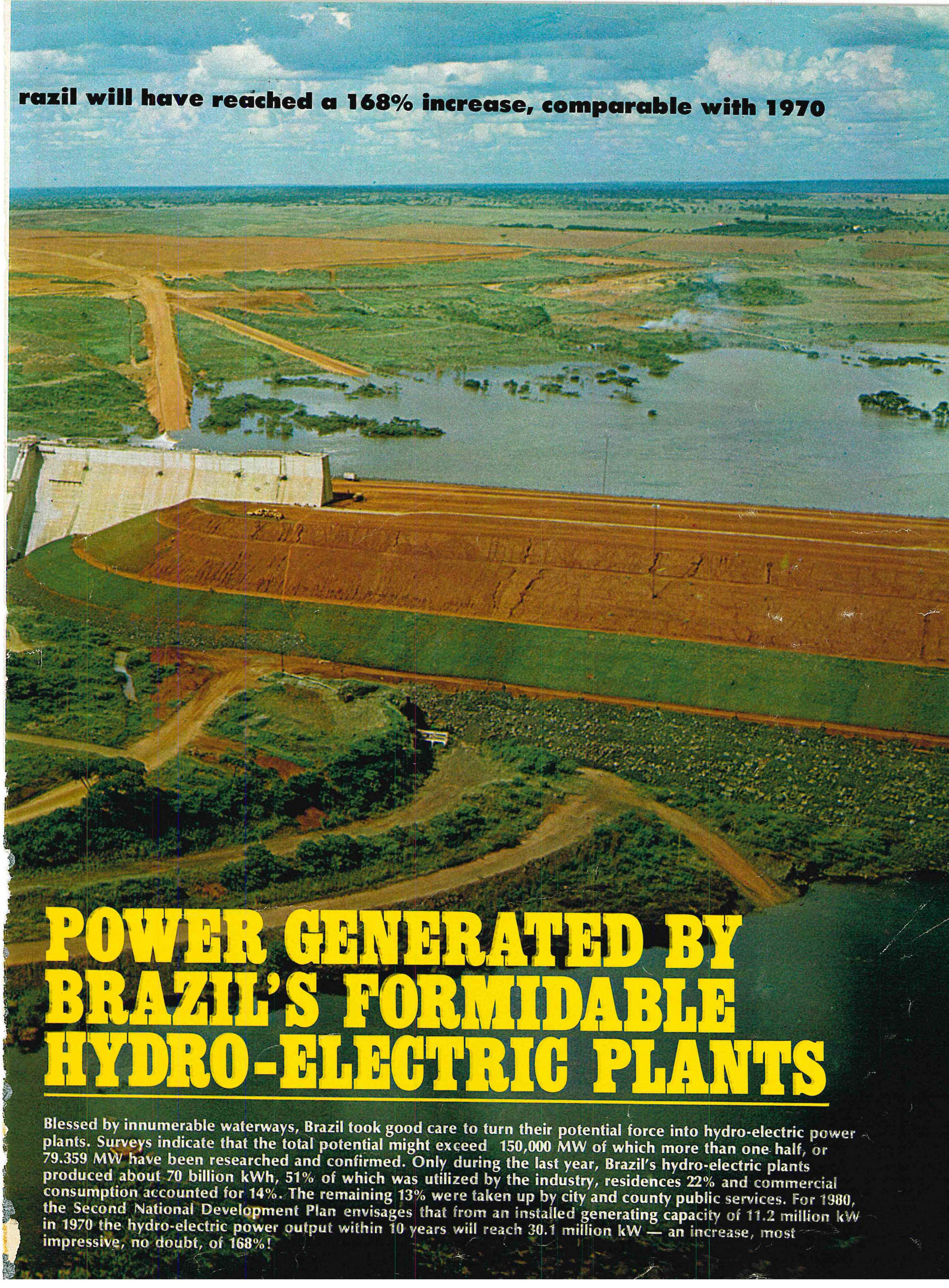
arco-artusi

In 1980, the installed generating capacity of electric plants in B

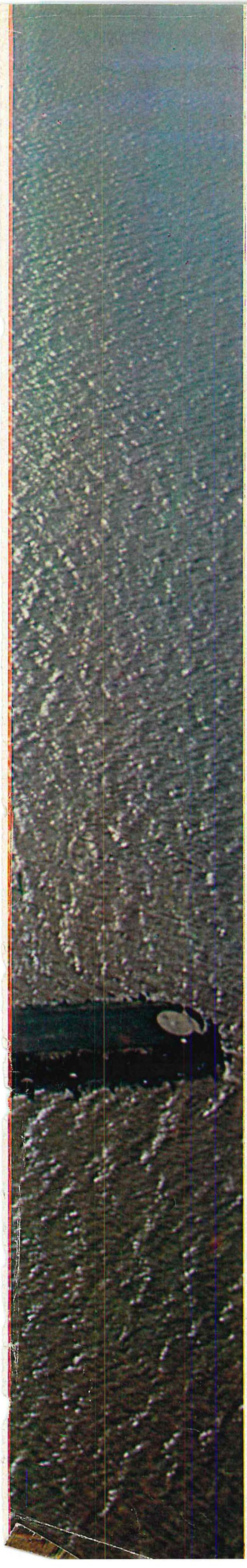
The hydroelectric plant of Jaguará, on the Grande river, which started to operate last year with a generating capacity of 680,000 kW, is one of the many which are contributing to increase Brazilian energy production.

razil will have reached a 168% increase, comparable with 1970



POWER GENERATED BY BRAZIL'S FORMIDABLE HYDRO-ELECTRIC PLANTS

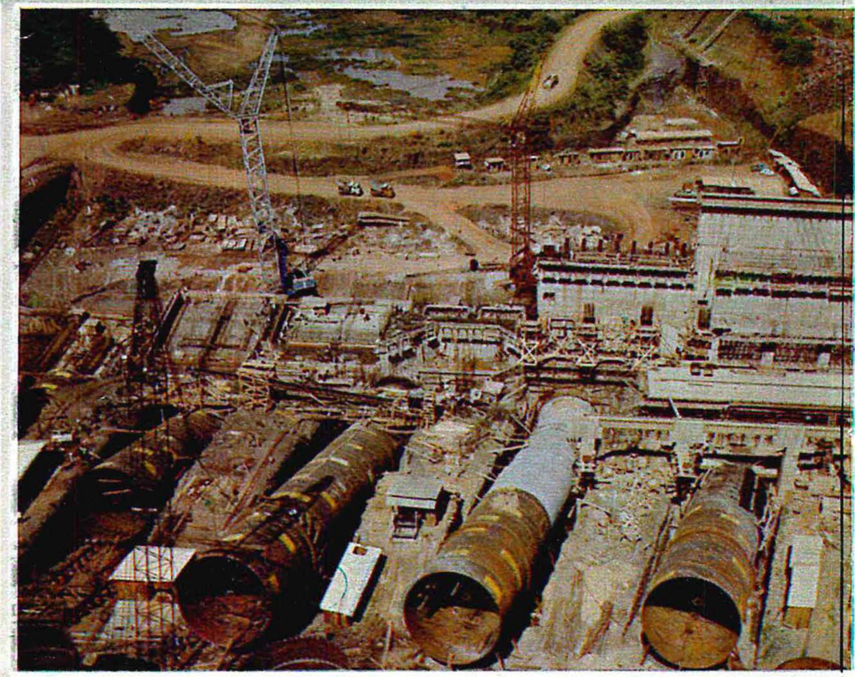
Blessed by innumerable waterways, Brazil took good care to turn their potential force into hydro-electric power plants. Surveys indicate that the total potential might exceed 150,000 MW of which more than one-half, or 79.359 MW have been researched and confirmed. Only during the last year, Brazil's hydro-electric plants produced about 70 billion kWh, 51% of which was utilized by the industry, residences 22% and commercial consumption accounted for 14%. The remaining 13% were taken up by city and county public services. For 1980, the Second National Development Plan envisages that from an installed generating capacity of 11.2 million kW in 1970 the hydro-electric power output within 10 years will reach 30.1 million kW — an increase, most impressive, no doubt, of 168%!



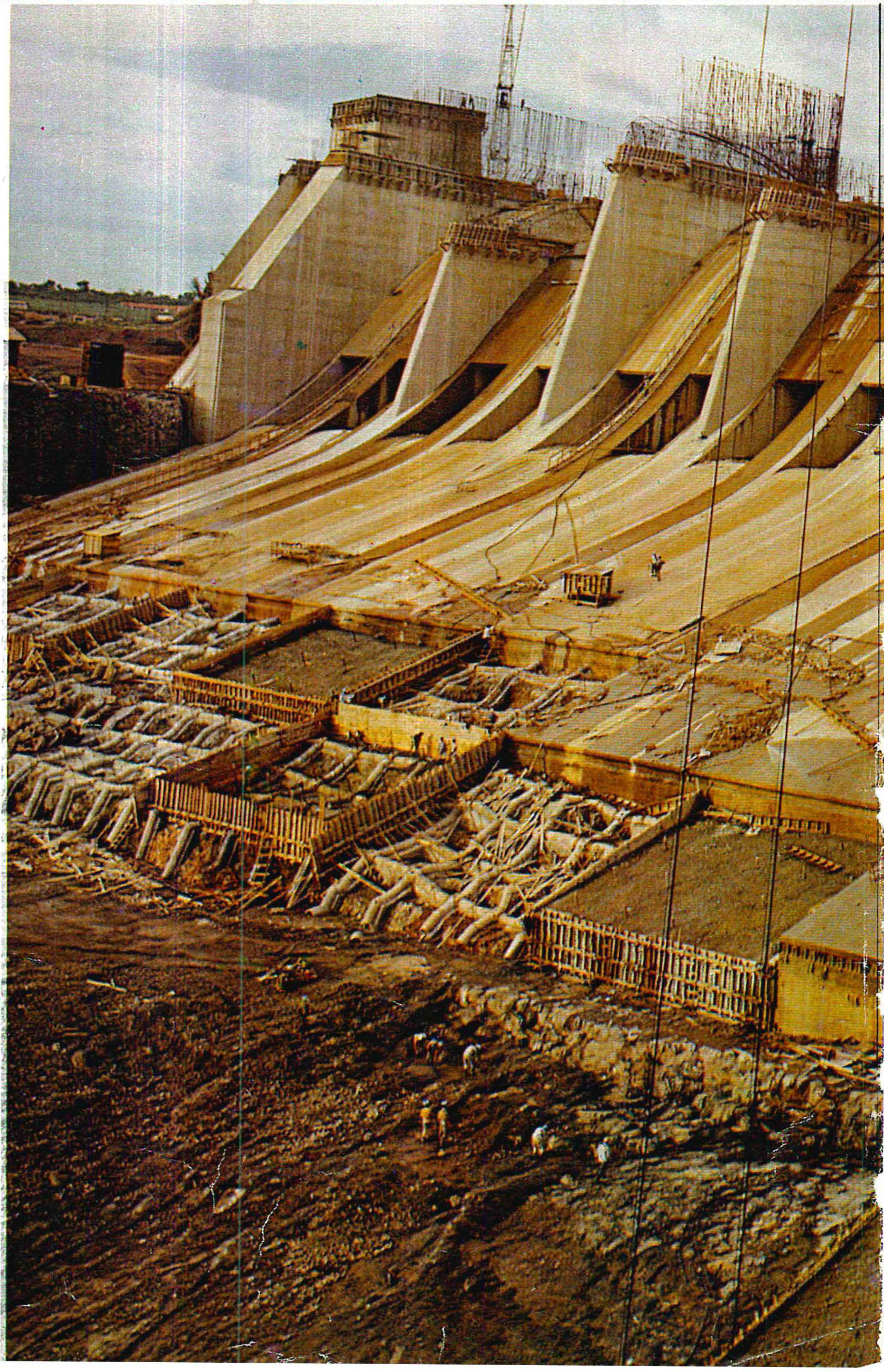
"Ilha Solteira" (shown in larger photo) and "Jupiá" (photo of power plant above) jointly form the Urubupungá hydro-electric complex on Paraná river, supplying São Paulo and neighboring states with 4.6 million kW. Below, Paulo Afonso III, the latest unit of a grand plant on lower São Francisco river whose first unit was inaugurated in 1948.

The major hydro-electric plants contribute decisively for Brazil's self-sufficiency in power in its present development efforts

AT the time when petroleum crisis threatens the very foundations of international economy and poses serious problems in developed nations, Brazil, it is satisfying to know, depends less on the "black gold" than many another developing nation. This is to say that Brazil depends less on oil to produce energy. Thermo-electric power in this country accounts but for 20% of the total. Brazil's power, essentially, is generated hydraulically, which permits us to maintain a rhythm of development without dependence on oil.

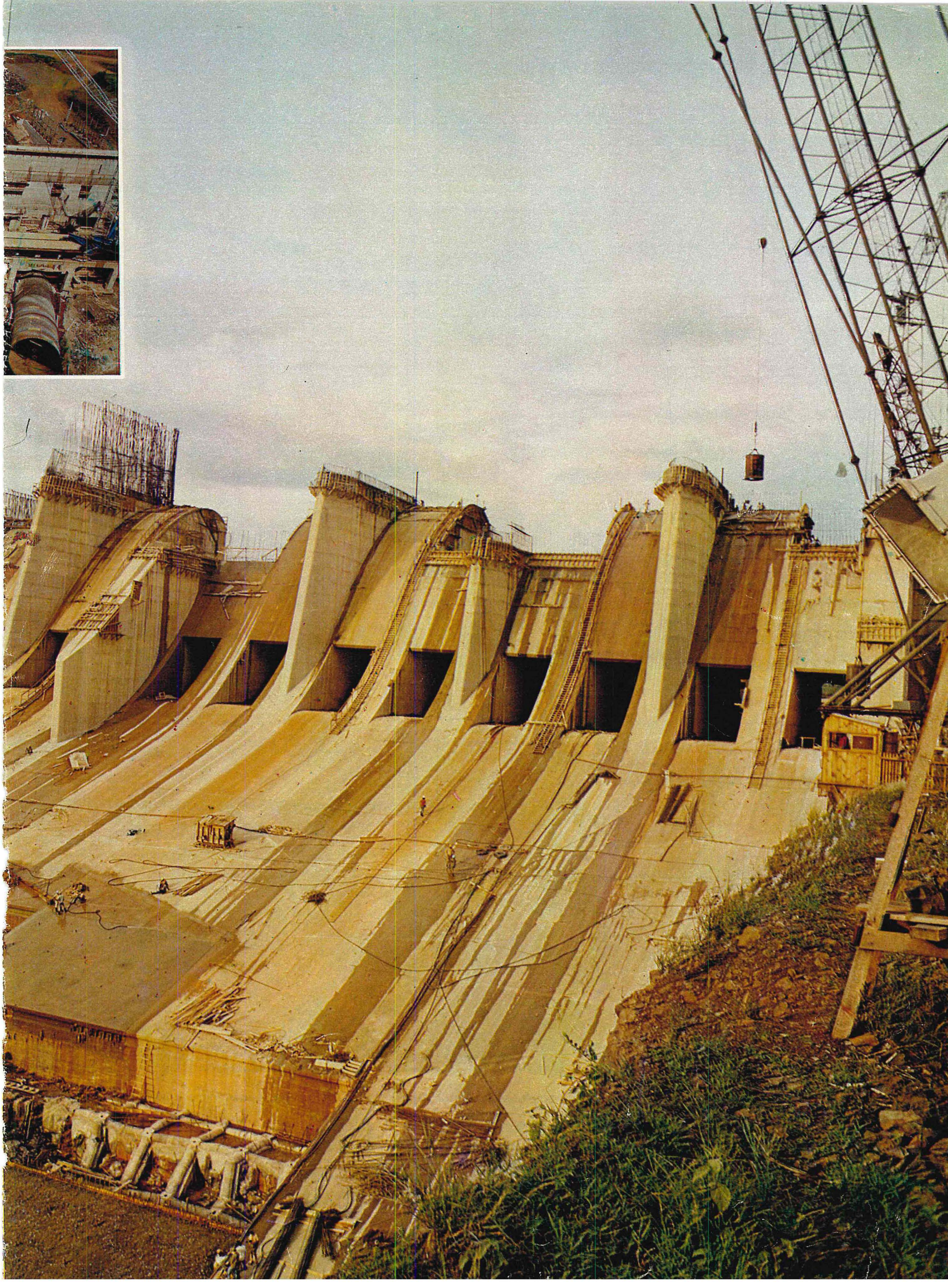


The photos show construction phases of the Marimbondo plant on Grande river designed to be one of the most impressive and important of Brazilian hydro-electric projects. Once completed, this plant will greatly attend to the growing power demand.



Brazil's electric power expansion program reaches out into Amazônia with the installation of hydro-electric plants on Tocantins, Xingu, Tapajós and Madeira

THE Second National Development Plan provides for intensive employment, during the next five years, of power generated by hydro-electric plants, especially in industrial enterprises consuming great quantities of electric power. This policy is aimed at reducing oil imports and, at the same time, boosting exports, thanks to cheap hydro-electric energy. This singularly important objective is embodied in the government's Amplified Electric Energy Program to cost an estimated 200 billion cruzeiros. This program calls for a 60% increase of generating capacity during the next five years. The program, moreover, includes, in addition to such maximum projects as the Itaipu and other important sources of power (Itumbiara, São Simão, Paulo Afonso IV, Xingó, Salto Santiago and other lesser plants), the second and possibly the third nuclear power plants, and the installation of more subsidiary thermo-electric plants. Simultaneously, the authorities are pursuing studies as to viability of two more projects in the Tocantins Valley (Tucuruí and São Félix) and the harnessing of the rivers in the Amazon basin, chiefly Xingu, Tapajós and Madeira.



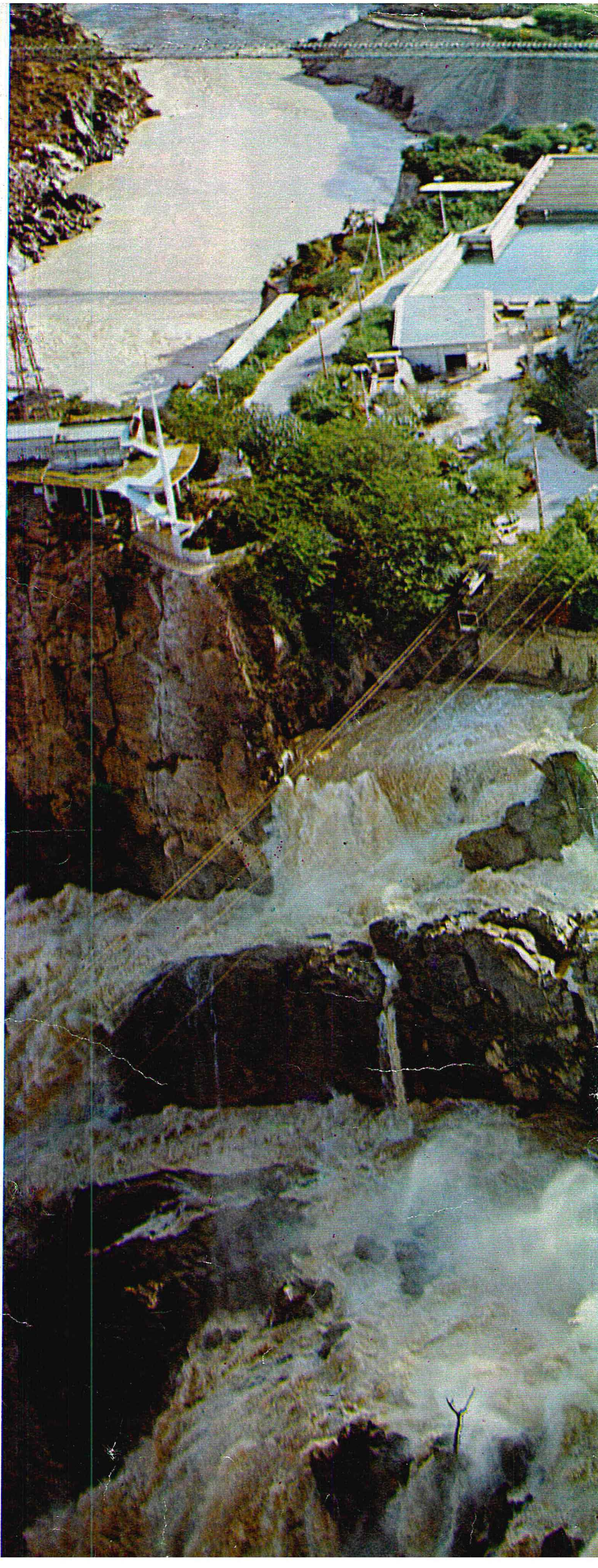
A panoramic view of the Estrelto hydro-electric plant on Grande river in Minas Gerais, with a generating capacity of 1,050,000

For almost a century, and long before any other latin american nation, Brazil began using its waterways' potential to generate electric power

ELECTRIC energy consumption in Brazil is one of the world's highest and is increasing at the annual rate of 13 per cent, equal to that of Japan and the Soviet Union. Within the next five years, by 1980, this country will have available 30 million kW, supplied chiefly by hydro-electric plants already in existence and those in final stages of construction. Presently, the following great hydro-electric plants are fully operational: Ilha Solteira (São Paulo) on Paraná river with a 3.2 million kW capacity; Paulo Afonso (Bahia) on São Francisco river, with 1.4 million kW; Jupiá

kW. At the turn of the century Brazil had available but 12,085 kW; today we have available more than 17 million kW.

(São Paulo) on Paraná river, with 1.4 million kW; Furnas (Minas Gerais) on Grande river — 1.2 million kW; and Estreito (Minas Gerais) likewise on Grande river — 1,050,000 kW. The other large plants, nearing completion and each with a generating capacity of more than one million kW, are: Marimbondo on Grande river; São Simão on Paranaíba river in Minas Gerais; Salto Osório on Iguaçu river in Paraná; and in the nearest future construction will start on Itaipu on Paraná river and the Brazil-Paraguay frontier. This last plant alone is designed to produce 10 million kW; Salto Santiago on Paraná river and Itumbiara on Paranaíba river in Minas Gerais will greatly augment Brazil's electric power output. A pioneer in the utilization of rivers for power production, Brazil inaugurated Latin America's first hydro-electric plant in 1883 in Diamantina (Minas Gerais) and a thermo-electric plant in Campos, only a year after Thomas Alva Edison had inaugurated the first power plant in the United States.



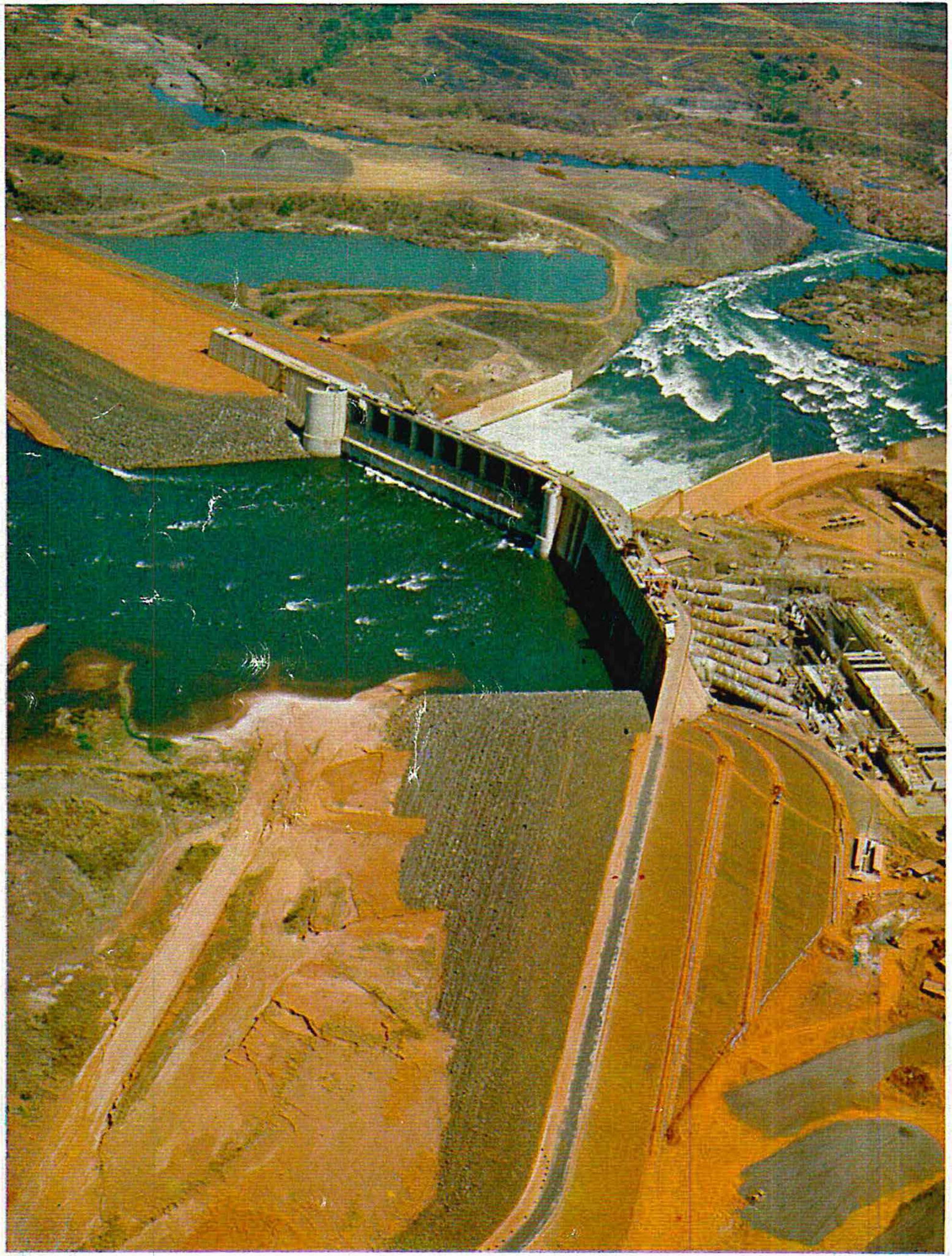
The hydro-electric plant Volta Grande (on Grande river) has an installed capacity of 400,000 kW (above) which will be increased shortly. The Três Marias dam on São Francisco river in Minas Gerais is shown in the lower picture above. Large photo at right shows Paulo Afonso Falls on lower São Francisco river whose capacity is 1.4 million kW.

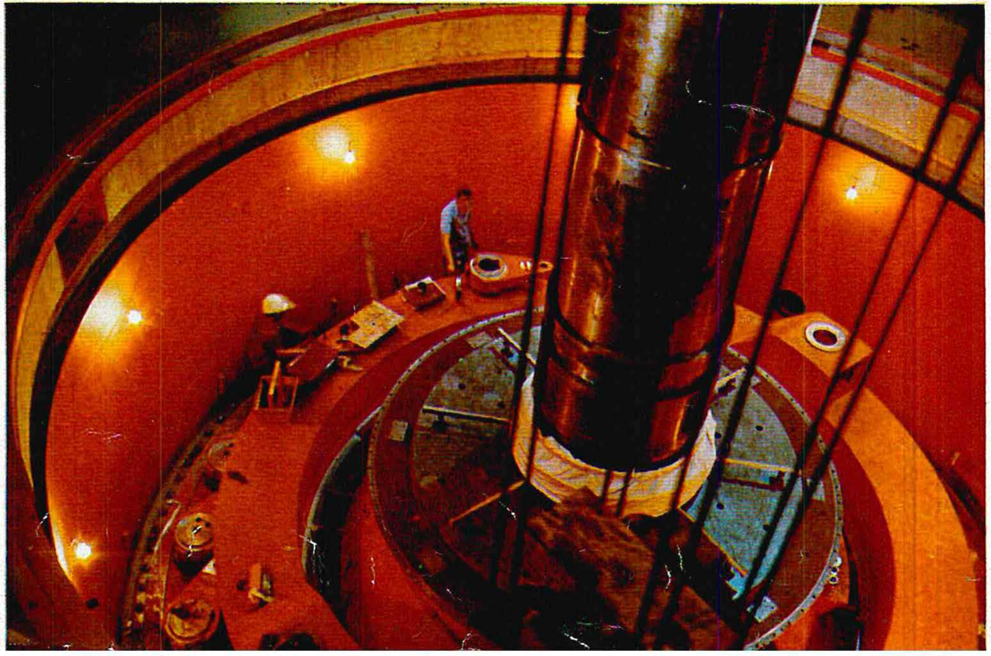
North-Eastern Brazil will have available an additional 1.2 million kW by the end of this decade, after the completion of Moxotó and Sobradinho plants which are part of the Paulo Afonso complex

WITH the construction of hydro-electric plants in Amazônia and completion of the Paulo Afonso complex programmed for 1980 (Moxotó and Sobradinho plants), the total available power in the vast region will increase substantially, reducing the gap between electric power consumption in the North and South. Presently, Brazil's southern and south-eastern regions consume 86 per cent of all power generated in this country. For the time being, northern and north-eastern areas use less than 12 per cent and central-western region about two per cent.

FURNAS

Its generating capacity will be doubled within the next six years





At right, the Nuclear Power Plant of Angra under construction. It should become operational in 1978. At left, views of the construction site of the Marimbondo Plant; the first three generating units will start producing power later this year.

WITH five hydro-electric plants and one thermo-electric plant in full production, FURNAS, a subsidiary of ELETROBRÁS, supplies the south-eastern region of Brazil with 3,922,000 kW of installed capacity. However, with the construction of a nuclear plant in Angra dos Reis, a new hydro-electric plant in Marimbondo and still another one in Itumbiara, FURNAS will have increased its installed capacity two-fold during the next few years — and this during only 18 years of its existence. With this expansion program actually realized, FURNAS will have its transmission lines stretching all the way from an integrated system with Itaipu in southern Brazil to the highlands of the Federal District of Brasília, and from the beaches of the State of Espírito Santo, across a continent, to the shores of the Paraguay river in Mato Grosso! The transmission lines will stretch for 1,200 kilometers from North to South and for 1,800 kilometers from East to West, serving a surface area of about 1.6 million square kilometers, or an area three times the size of France!

The Marimbondo hydro-electric project on the Grande river, where the river divides the states of Minas Gerais and São Paulo, is in an advanced stage of construction. During the second half of this year, the first three generating units of 180,000 kW capacity each will be commissioned. The plant's total capacity will be 1,440,000 kW.

The nuclear power plant in Angra dos Reis also is in an advanced stage of construction. It will be the first of its kind in Brazil with a nominal capacity of 624,000 kW.

The hydro-electric plant of Itumbiara, where Minas Gerais meets Goiás, on the Paranaíba river, now past the initial phase of construction, will have 2.1 million kW and its first generating units will become operational in 1980.

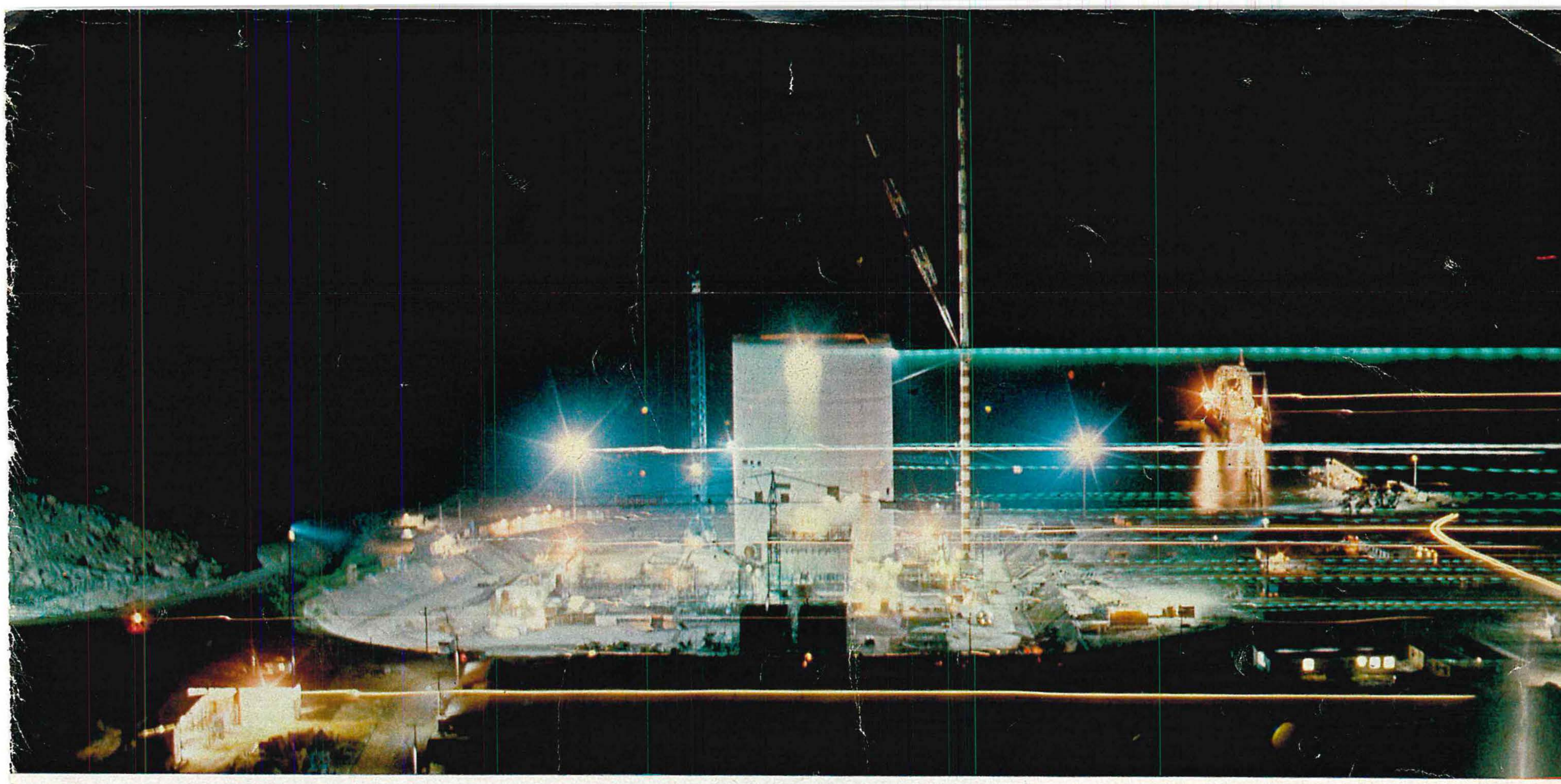
The three plants will, thus, have a power output totalling 4,224,000 kW, which will place FURNAS in a position of delivering from the present 3,922,000 kW to 8,146,000 kW in the next few years.

The Itumbiara hydro-electric plant will be the fourth largest in Brazil in installed capacity; fifth in the volume of water stored. Its dam will be the third highest — 80 meters.

According to the Ministry of Mines and Energy, the Itumbiara output, if compared with thermal plants, would be consuming 12 million barrels of fuel annually!

Therefore, FURNAS, viewed from the Federal Government angle as responsible for generating power and transmitting it over long distances and remote areas, has a major responsibility in the overall goals and achievements of the Second National Development Plan.

Additionally, FURNAS has been charged not only with the construction of large plants, both hydro-electrical as well as nuclear, but with a job of pursuing modern technology at its best.



THE BRAZILIAN POWER DEVELOP

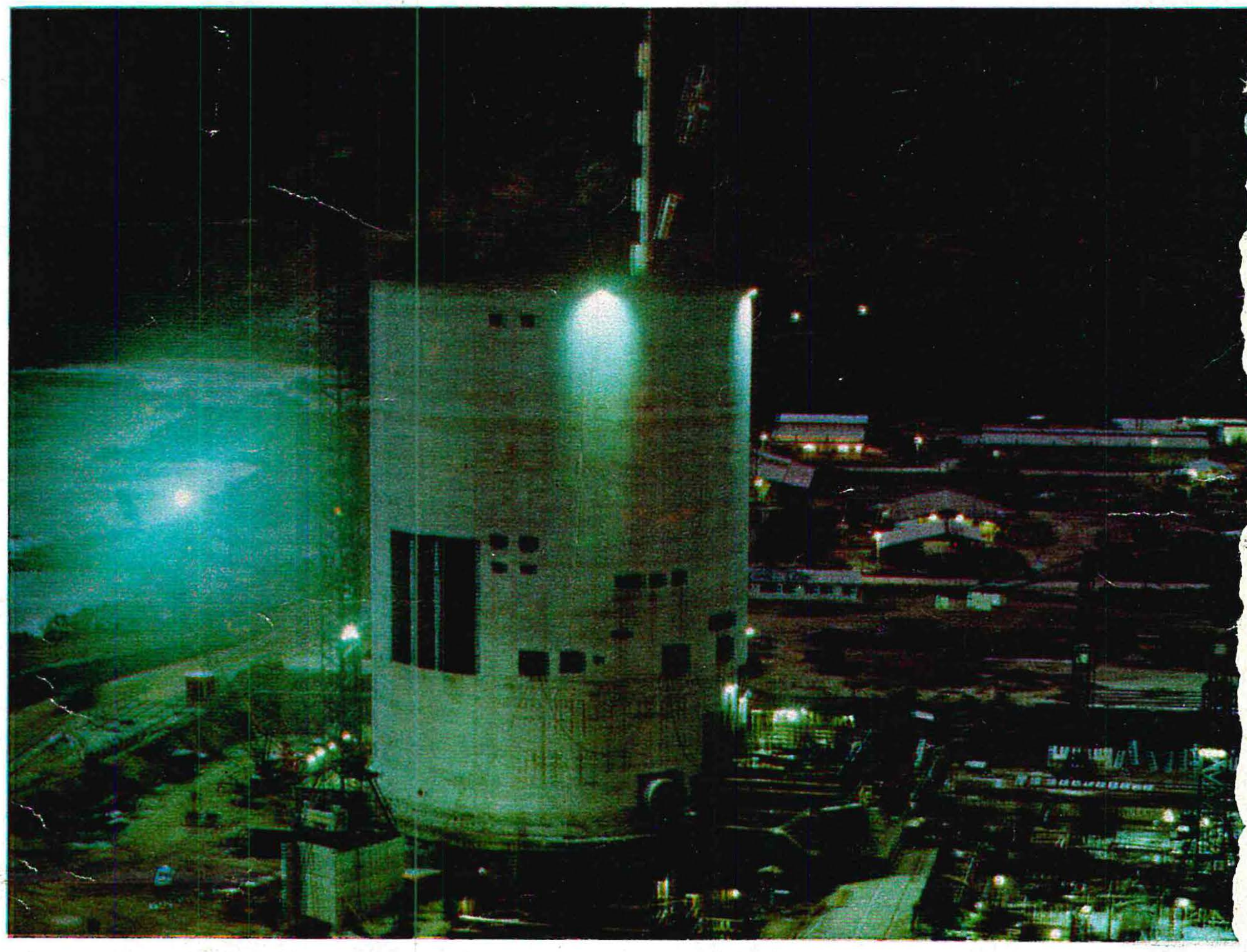
PURSUANT to the guidelines and directives laid down in the Second National Development Plan, Brazil should soon become self-sufficient in basic energy sources. Any strategy in this field should depend on the results obtained from oil prospection.

A nation may possess considerable natural resources and have at its command vast financial backing but it still would be unable to count upon adequate development of its natural wealth without certain basic prerequisites. These prerequisites would indicate, first of all, for a nation to have available teams of engineers and technicians in order to establish and properly maintain an industrial organization and to be able to expand and modernize it, when needed, and maintain an adequate production rate. This applies equally to scientific discoveries made elsewhere, technological breakthroughs and techniques which might be made use of and adapted by one's own industrial establishment. The Second National Development Plan makes this premise abundantly clear.

Undoubtedly, Brazil has no alternatives, in view of steadily growing demand for electric energy, but to continue exploiting its enormous hydro-electric potential and, additionally, vigorously pursue nuclear power development, in accordance with its political and economic implications.

Recently promulgated legislation dealing with nuclear energy has placed major responsibility for all activities in this sector with "NUCLEBRÁS" — the Brazilian nuclear development monopoly, with particular emphasis on industrial application of nuclear power. The National Nuclear Energy Commission — CNEN — remains the organ for

Below, two aspects of the nuclear plant under construction at Angra dos Reis, in the State of Rio de Ja
first one to be launched in Brazil. More nuclear plants are being programmed by the Federal Govern



NUCLEAR
MENT PROGRAM

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supervision, orientation and planning of activities connected with nuclear energy. The Commission continues promoting and executing basic research and specialized personnel training.

Although the NUCLEBRÁS has been assigned the important role for industrial development of nuclear energy and the responsibility of meeting the growing demand, the Commision (CNEN) retains overall responsibility in the field of nuclear energy development affecting national interests, present and future.

Compatible with national interests, the Commission is the organ authorized to licence industrial application of nuclear power, appraise competence and exercise all regulatory and control powers, thus, in essence, is the guardian of national and public well-being.

The National Nuclear Energy Commission, in accordance with provisions contained in the Second National Development Plan, is charged with promoting basic research and the upbringing of qualifications of its technical personnel, as well as the research commensurate with national development efforts.

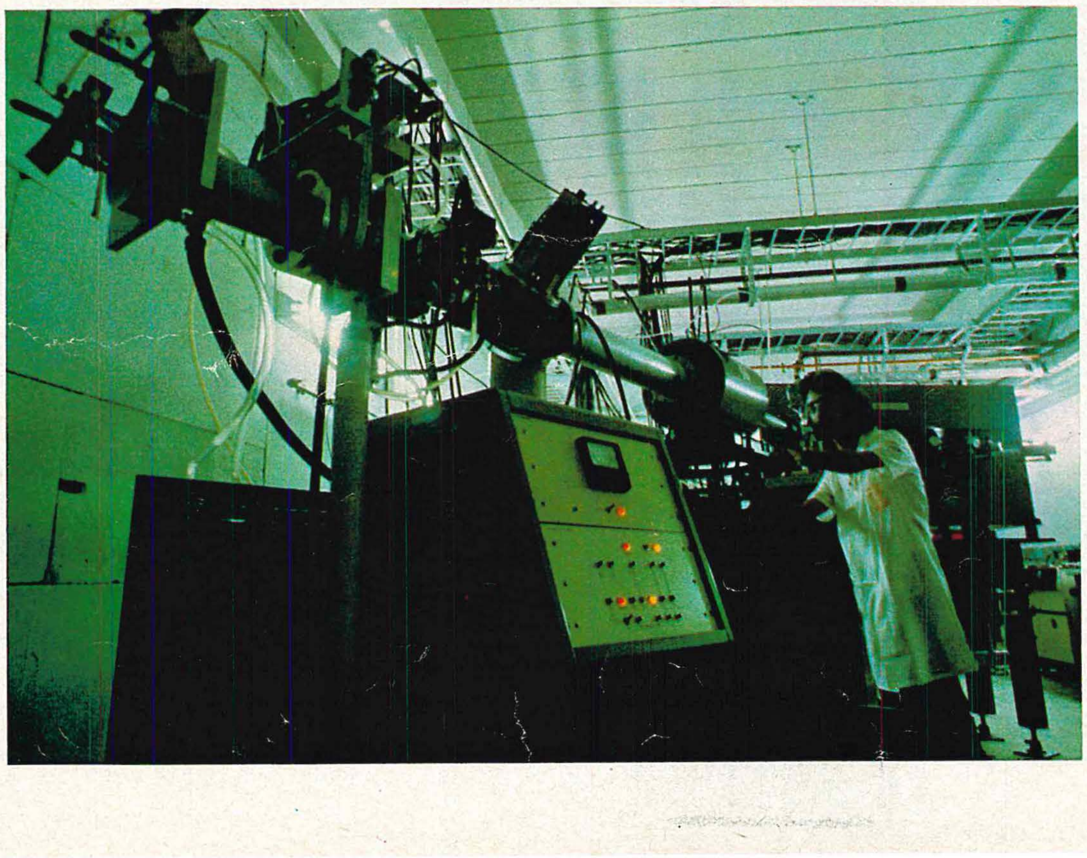
Various courses, at university levels, as well as post-graduate courses, are presently available in this country with the Commision's collaboration in the fields of engineering, medicine, biology and agriculture. Additionally, the Commission sponsors visiting foreign professors and scholarships for Brazilian students for specialized training abroad.

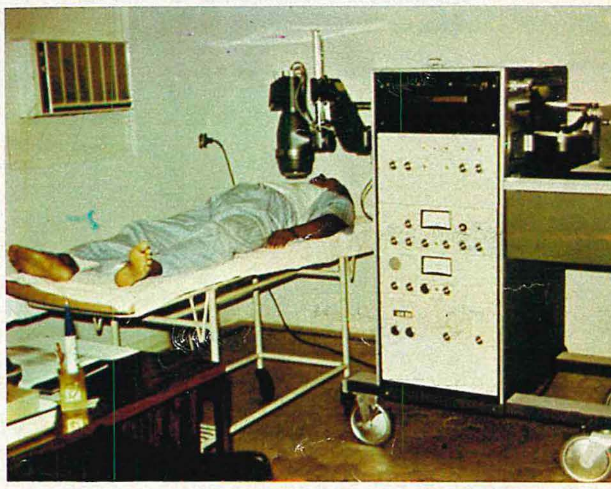
The Commission is answerable to international organizations in the matter of radioactive and fissionable material, whether imported or produced in Brazil.

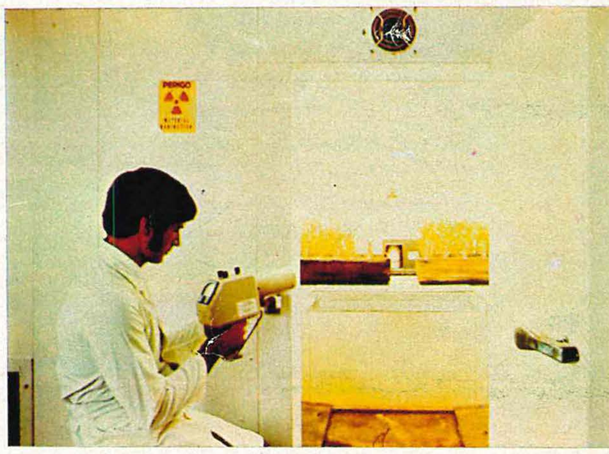
The Commission also controls possession, use, stocking and transportation of radioactive material, nuclear minerals and concentrates with nuclear fission characteristics. The Commision's authority extends over the establishment of fissionable material reserves necessary for the execution of the Brazilian Nuclear Program; prospecting of fissionable materials and trading in same; and, in general, total control over the licensing of any establishment engaged with nuclear materials throughout the national territory.

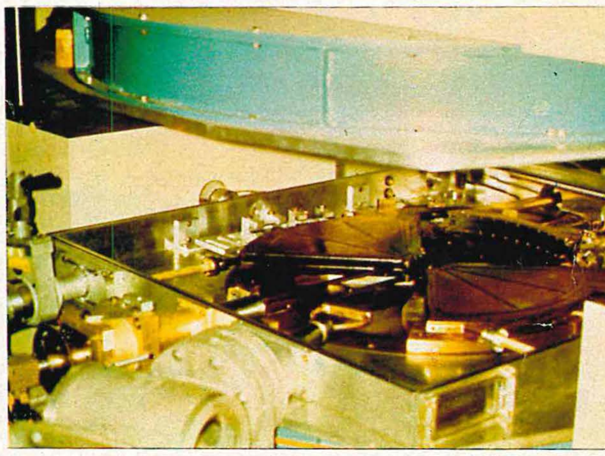
The Commission will continue coordinating nuclear activity in order to ensure maximum results for the nation's benefit with resources presently available and to avoid duplication of efforts. The Commission is striving to maintain public confidence in nuclear development as an important factor in the nation's ultimate development aims and objectives.

Fundamental research, selection and training of technical personnel and technological breakthroughs under the responsibility of the National Nuclear Energy Commission.







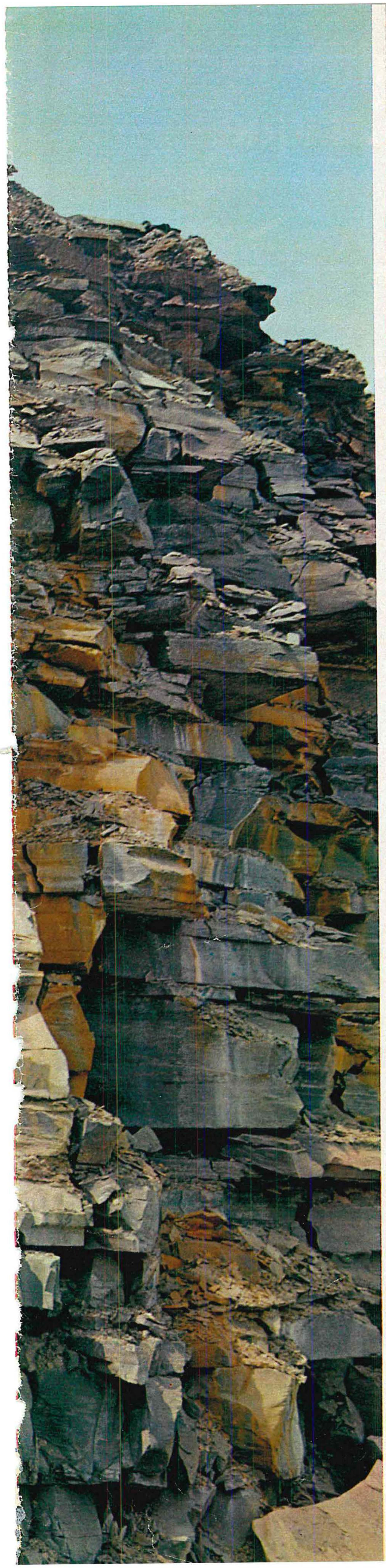


The top photography shows nuclear energy application in medicine: the cobalt bomb. Central picture: research with nuclear materials for enrichment of soils. Above: a detail of a cyclotrone installation, which maintains various graduate and post-graduate courses.

BITUMINOUS SCHIST

ENERGY FOR THE FUTURE

Already in 1977, Brazil will be producing about five thousand barrels of oil daily, extracted from bituminous schist by a purely Brazilian process. Bituminous schist deposits in São Mateus do Sul, in the state of Paraná, spread over an area of 82 square kilometers, if properly treated, would suffice to supply Brazil with petroleum for two years, without any necessity to import crude from abroad. Presently Brazil has the world's second largest schist deposits. However, this country may well be in first position, once new deposits in central Amazon region, recently discovered, begin to be extracted. The new find, according to laboratory tests, is superior, in quality, to bituminous schist in Paraná. In São Mateus a Petrobrás pilot plant is equipped to process 2,200 tons of schist daily, producing 1,000 barrels of oil, 36,500 cubic meters of gas and 17 tons of sulphur.



BUCYRUS ERIE

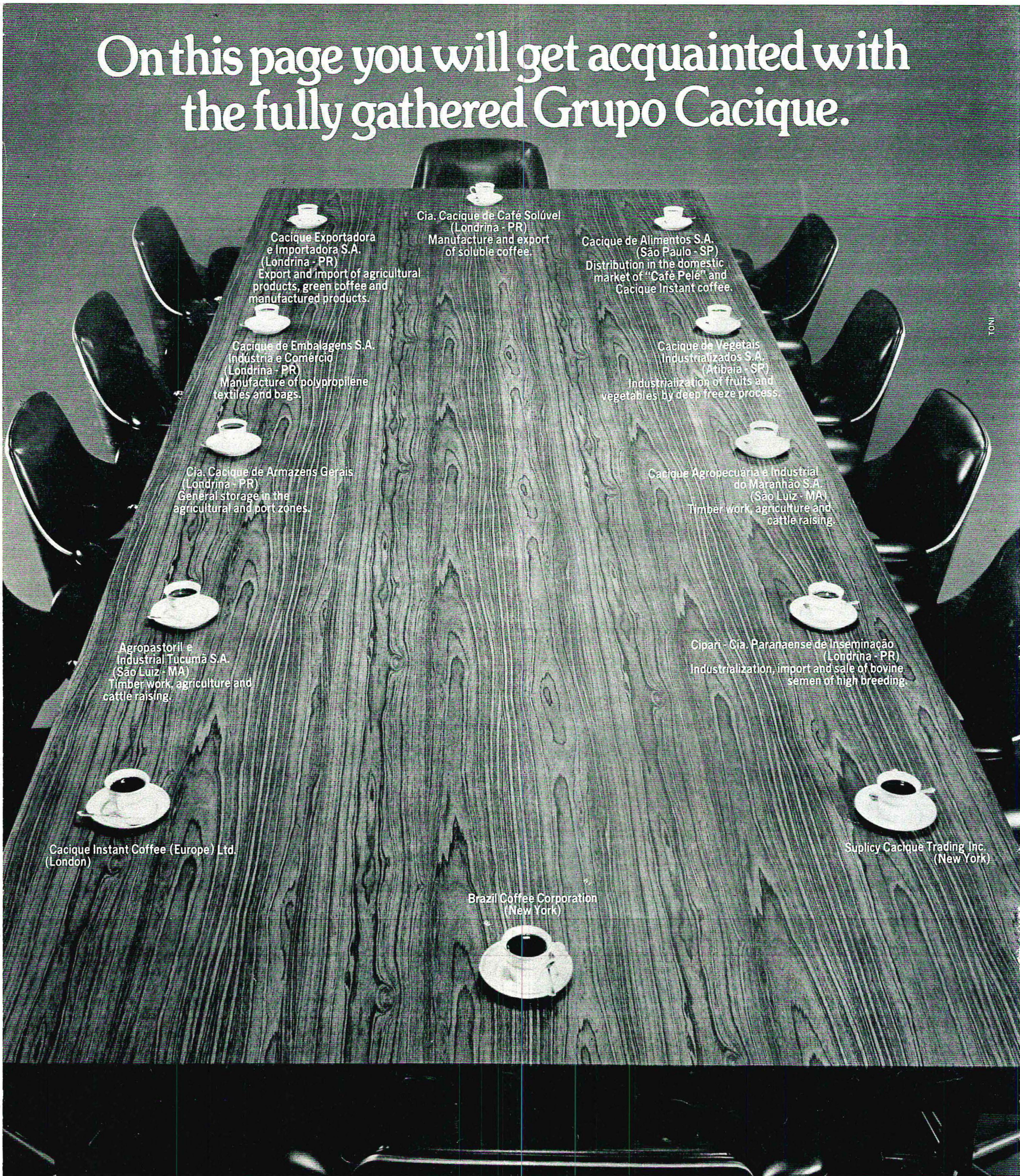
VILLARES P&H

Bituminous schist deposits in São Mateus do Sul region would produce 11 billion barrels of oil, it is estimated, or 13 times more than all the presently known oil reserves of Brazil

BITUMINOUS schist reserves duly researched in the São Mateus do Sul region have a potential production of 100 million cubic meters of oil, 4.5 million tons of liquid gas and 22 billion cubic meters of fuel gas. Other reserves in São Gabriel and Dom Pedrito regions of Rio Grande do Sul and the latest discoveries in the middle Amazon basin area will exceed all other deposits — capable of producing upwards of 5 billion barrels of oil.

In the São Mateus do Sul region several sites have already been intensely researched, indicating that bituminous schist extraction is possible on the surface. The Petrobrás Pilot Plant at Irati has a capacity of processing 2,200 tons of schist daily.

On this page you will get acquainted with the fully gathered Grupo Cacique.



Cia. Cacique de Café Solúvel
(Londrina - PR)
Manufacture and export of soluble coffee.

Cacique Exportadora e Importadora S.A.
(Londrina - PR)
Export and import of agricultural products, green coffee and manufactured products.

Cacique de Alimentos S.A.
(São Paulo - SP)
Distribution in the domestic market of "Café Pelé" and Cacique Instant coffee.

Cacique de Embalagens S.A. Indústria e Comércio
(Londrina - PR)
Manufacture of polypropilene textiles and bags.

Cacique de Vegetais Industrializados S.A.
(Atibaia - SP)
Industrialization of fruits and vegetables by deep freeze process.

Cia. Cacique de Armazens Gerais
(Londrina - PR)
General storage in the agricultural and port zones.

Cacique Agropecuária e Industrial do Maranhão S.A.
(São Luiz - MA)
Timber work, agriculture and cattle raising.

Agropastoril e Industrial Tucumã S.A.
(São Luiz - MA)
Timber work, agriculture and cattle raising.

Cipari - Cia. Paranaense de Inseminação
(Londrina - PR)
Industrialization, import and sale of bovine semen of high breeding.

Cacique Instant Coffee (Europe) Ltd.
(London)

Suplicy Cacique Trading Inc.
(New York)

Brazil Coffee Corporation
(New York)

TONI

The commercial structure of Cacique Enterprises abroad is supported by a net of branch offices and agents located in the most important commercial centers of the world.

HEAD OFFICE: AV. PAULISTA, 2073 - 24º FLOOR - P.O. BOX 30.753 - PHONE: 278.0111
TELEX: (011) - 22220 - 21891 CABLE ADDRESS "SOLCACIQUE" - SÃO PAULO - BRAZIL.

CACIQUE

THE AGE OF BRAZILIAN TECHNOLOGY

eucatex

For more than twenty years Eucatex has contributed decisively to help Brazil arrive in what is known today as the Age of Brazilian Technology.

Starting out with the manufacturing of woodfiber boards and panels, Eucatex went right on to research and develop tirelessly new applications and its own know-how. Today this has turned into an extensive and diversified line of products marketed in more than 40 countries, including the U.S.A., West Germany, the United Kingdom, Holland and Mexico.

Its mills, now covering an under-roof area of 125 thousand square meters, are a significant example of Brazil's perfect integration with the most modern technology that exists.

They turn out products such as XAPADUR - a complete line of pressed woodfiber hardboards. This material's versatility has captured the market and encouraged Eucatex to invest 20 million dollars in a second line of production which has the world's largest hardwood press.

This expansion allows Eucatex to produce 4.5 million m^2 *of boards per month - more than double its previous production.*

Another leading product is EUCAPLAC - a panel that comes in solid colors and in hardwood grain patterns.

Based on this product, Eucatex developed DIVILUX - the most functional and aesthetic solution to divide indoor areas by means of modular panels of exquisite beauty and durability.

Besides supplying thermal and acoustical insulation, these DIVILUX partitions also ensure protection against fire, thereby meeting the most recent safety standards thanks to a FIBRAROC board core.

FIBRAROC demonstrates how much Eucatex research and technology has achieved. FIBRAROC is a mineral thermal-insulating, sound-absorbing and fire-proof board entirely developed in Brazil and already submitted to and approved by exhaustive and severe official laboratory tests both in Brazil and overseas.

But technological development went further. Eucatex classic lines of ceilings were also enriched with FIBRAROC tiles. It now offers ceilings that are beautiful, light and fire-proof.

EUCAPLAC-F and SYRAMIC are two more steps taken towards technological superiority. EUCAPLAC-F are solid colors and woodgrain finished hardboards with surfaces highly resistant to abrasion, which create wider possibilities in the furniture industry, store fixtures and industrial installations as well as in a great number of applications previously limited to plastic laminates.

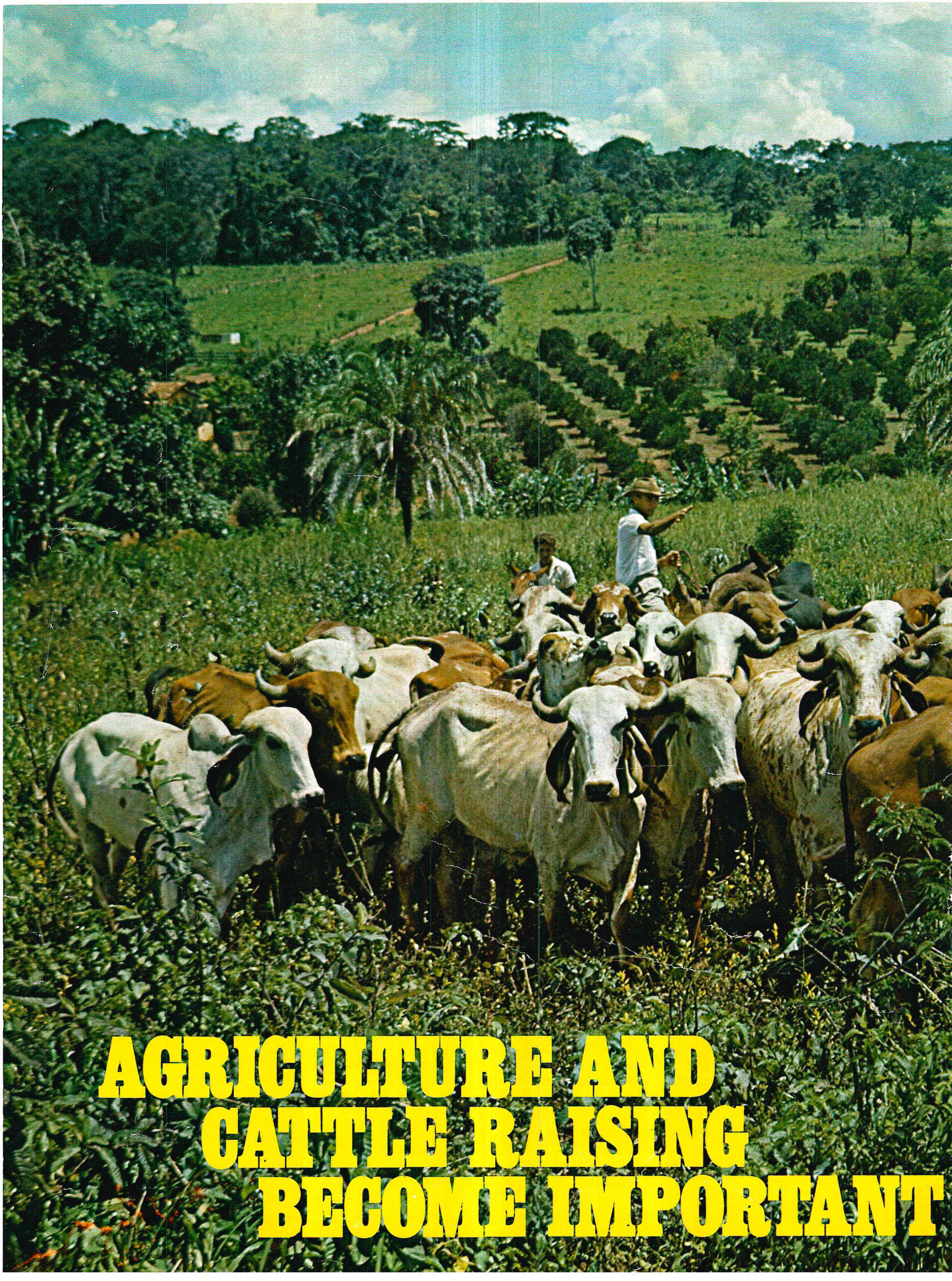
SYRAMIC are plates with embossed surfaces in varied patterns and colors (an exclusive process in the Americas) used for decorative panelling of walls, furniture and other applications at great speed, low costs, and in a beautiful fashion.

All these lines of products speak for themselves and for Eucatex, because of their uniqueness, their refined quality and advanced production know-how.

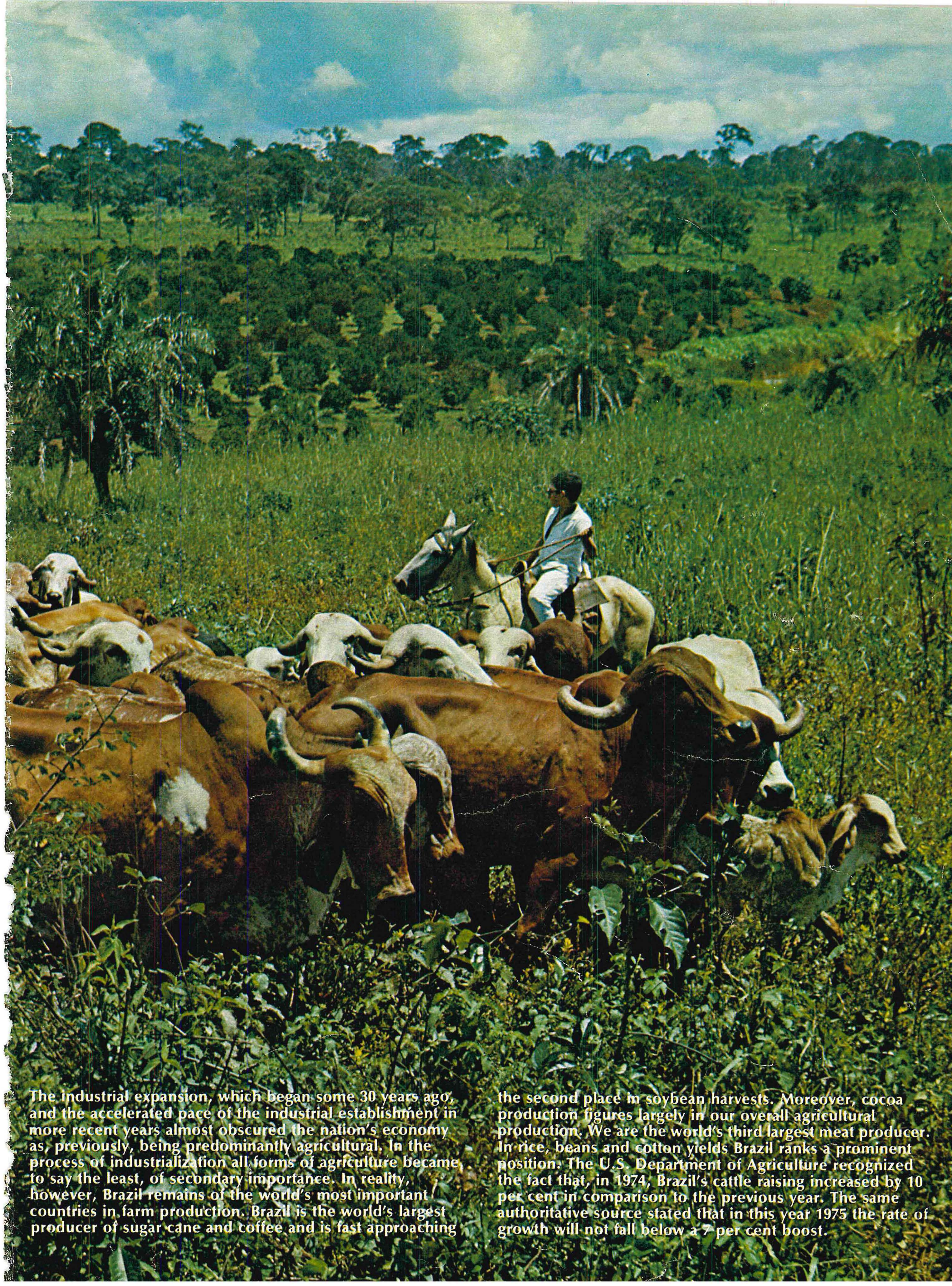
It's definite evidence of a pioneering industry's fast pace and constant development.

It's proof of the Age of Brazilian Technology.

Head office: Av. Francisco Matarazzo, 584/612 - CEP 05001 - Phone: 66-9181 (PABX) - São Paulo • RECIFE - Rua Visconde de Goiana, 276, Boa Vista - Phone: 21-3633 • SALVADOR - Av. Estados Unidos, 1-s/515 - Phone: 2-2298 - Ed. Cervantes • BRASÍLIA - Quadra 17, Lote 17, s.c.s., c/ 221 - Phone: 24-5763 - Ed. Arnaldo Dumont Villares • BELO HORIZONTE - Av. Amazonas, 311, s/802/3 - Phone: 222-5170 • BELÉM - Rua Ó de Almeida, 490 - Conj. 1003 - Edifício Rotary - Phone: 23-1586 • RIO DE JANEIRO - Av. Princesa Izabel, 350 - S/L - Phones: 235-3942 e 235-7969 • CURITIBA - Rua João Negrão, 150 - Phones: 22-9176 e 24-9247 • PORTO ALEGRE - Av. Independência, 375 - Phones: 24-0571 e 24-2145 • FORTALEZA - Rua Pedro Pereira, 460, salas 907/8 - Ed. Santa Lúcia - Phone: 26-1931.



AGRICULTURE AND CATTLE RAISING BECOME IMPORTANT



The industrial expansion, which began some 30 years ago, and the accelerated pace of the industrial establishment in more recent years almost obscured the nation's economy as, previously, being predominantly agricultural. In the process of industrialization all forms of agriculture became, to say the least, of secondary importance. In reality, however, Brazil remains of the world's most important countries in farm production. Brazil is the world's largest producer of sugar cane and coffee and is fast approaching the second place in soybean harvests. Moreover, cocoa production figures largely in our overall agricultural production. We are the world's third largest meat producer. In rice, beans and cotton yields Brazil ranks a prominent position. The U.S. Department of Agriculture recognized the fact that, in 1974, Brazil's cattle raising increased by 10 per cent in comparison to the previous year. The same authoritative source stated that in this year 1975 the rate of growth will not fall below a 7 per cent boost.

THE Second National Development Plan, in its chapter dealing with farm production and cattle raising, envisages a greatly stepped up role, during the next five years, of rural contribution toward the Gross National Product, with emphasis on lower cost to the consumer and higher earnings for the farmer. Realistically, the priority given to farming is based on two premises: food and raw materials shortage in the world at large; and the fact that Brazil is able to increase its productivity in this area in order to meet the growing demand, both internal and external. Being one of the few remaining countries in the world, with "wide open spaces available" for farm production and cattle raising, Brazil is capable of contributing to meet the world food demand. From an area of arable land measuring 850 million hectares, Brazil has only 217 millions hectares under cultivation, leaving 633 million hectares for planting and exploration. The present government policy is to turn more and more potentially productive areas under plow and seeding, particularly those areas known as "campos cerrados", or semi-arid, heretofore unproductive areas, through vast irrigation schemes.

Brazil presently has a cattle herd in excess of 100 million head. Additionally, the swine herd is nearly 70 million strong, one of the world's largest meat reserves. New pasture lands are appearing in the Amazon region, more specifically in southern Pará and the Territory of Roraima.

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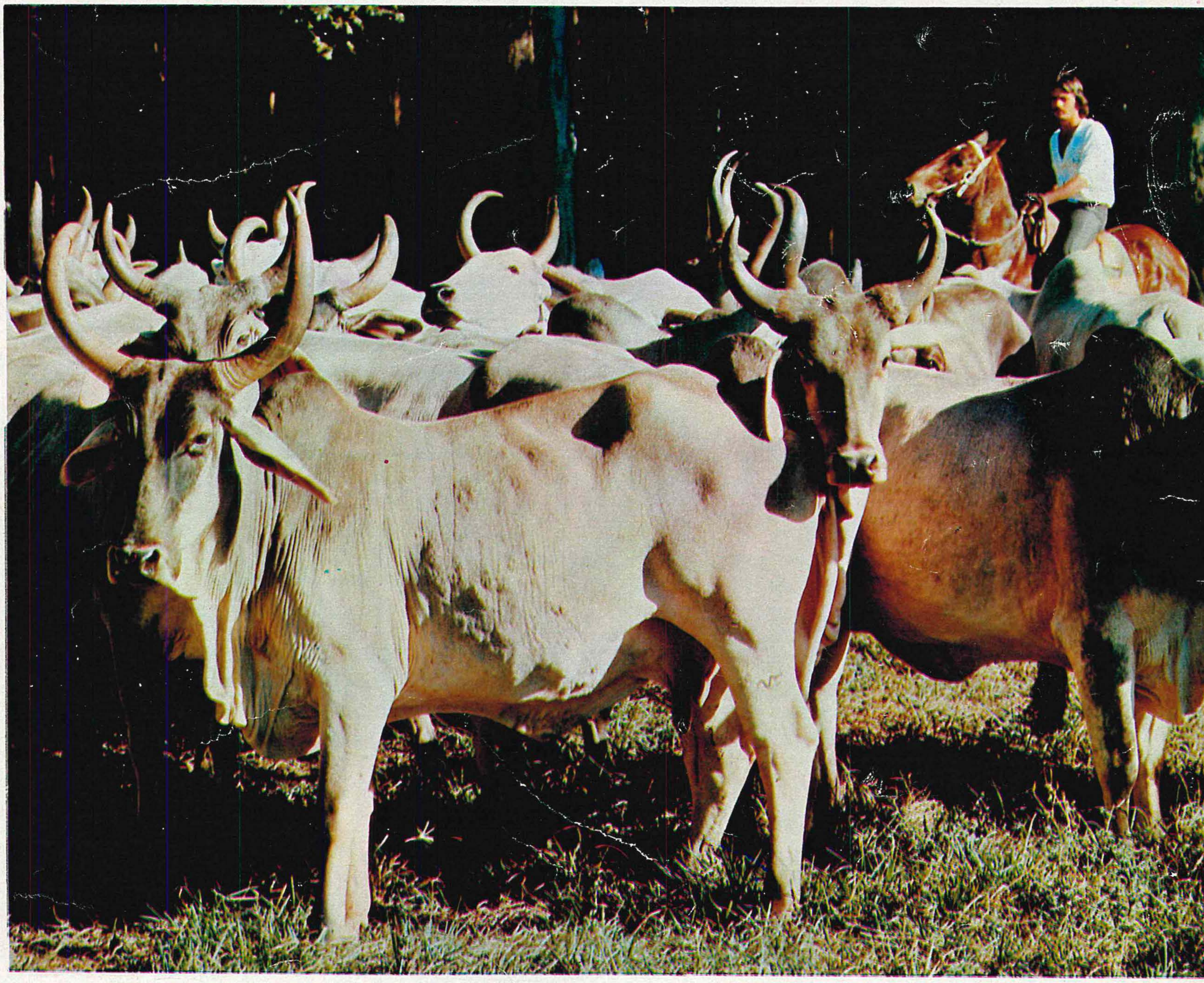


By next year, the Ministry of Agriculture will have launched a 25-million cruzeiros program for improvements in cattle raising with special attention to scientifically cultivated pastures. Within this program, artificial insemination is emphasized.

IN compliance with the principal guidelines embodied in the Second National Development Plan, the "occupation" and utilization of vast hitherto unproductive areas for agricultural purposes are being accompanied with modern technology and concepts of preservation of soil fertility through rotating crops. Scientific soils classification in these areas shows which land is best suited for certain crops. Furthermore, access roads are being built and technical assistance provided — such as extension service, rural credit and marketing — all these measures aimed at preventing agricultural outputs in these areas falling to subsistance levels which still exist in various regions of Brazil. Simultaneously, the agrarian reform and re-distribution of land keep apace, specifically in regions where enormous land holdings remained unproductive, in detriment of national interests and socio-economic aspects.

A comparatively new source of wealth in Brazil, soybean crops today represent the principal fount of foreign currency generated by intensive agriculture, rivaling coffee, cocoa and sugar yields. This year Brazil may well become the second largest soybean supplier.

THE most spectacular aspect of the growth and importance of Brazilian agriculture was provided last year by soybean harvest of more than 7 million tons: This has placed Brazil in third position of world soybean producers, after the United States and China. The 1974 soybean crop was 30 per cent larger than in the previous year and double that of 1972. In 1974 a total area of 5.5 million hectares was under soybean plantation. This year, it is estimated, soybean crop will render about four billion dollars — a significant contribution to Brazil's balance of payments. Rural credit facilities, provided by the Government and private banks, reached 8 million dollars or about 60 million cruzeiros.

Brazil's Lumber Industry

BRAZIL, a nation of continental proportions with 8.5 million square kilometers, has the world's last and greatest forest reserves concentrated in the Amazon region. Brazil's vast territory possesses no less than 17.8 per cent of planet Earth forests. And not only in Amazônia but also in the nation's southern regions — in the states of Paraná, Santa Catarina and Rio Grande do Sul — forests cover vast areas.

Through the association of thirty major lumber industries and exporters of these states emerged a powerful holding company, the Brazilian Lumber Exporters Corporation — "Madebrás S.A".

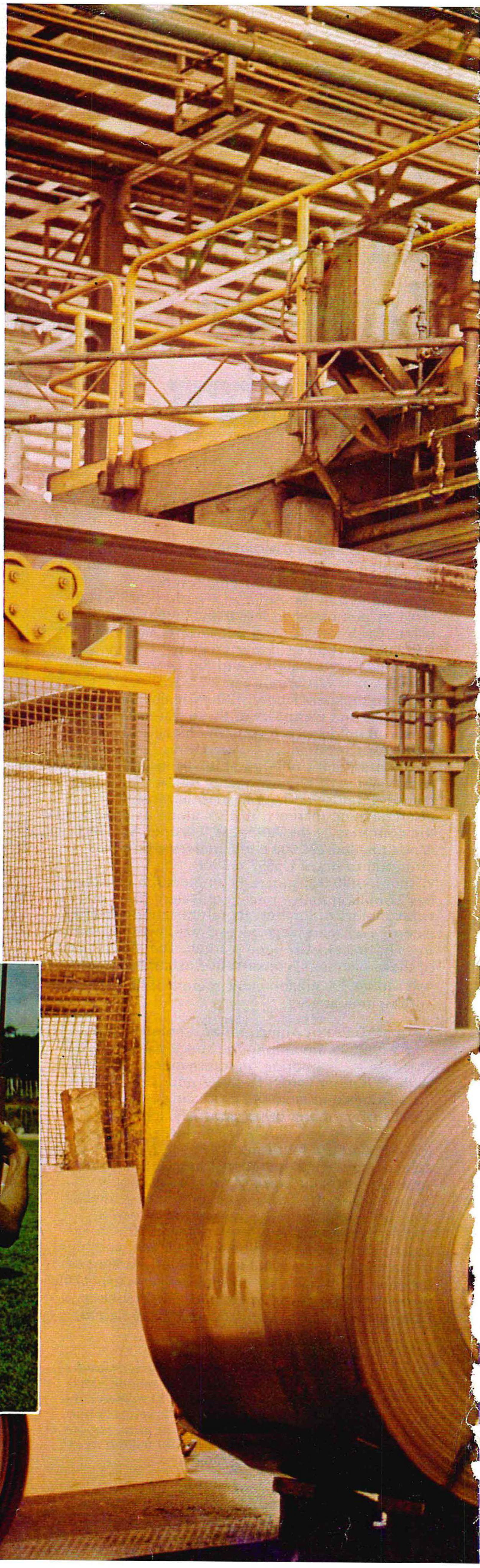
"Madebrás" currently has at its disposal 51 million cubic meters of highest quality lumber for every conceivable use and application in most discriminating markets. In 1974 alone its exports to the countries of the Americas, Europe, Asia and Africa totalled 294,000 cubic meters which had rendered to Brazil US$52 million.

Within its 140,000 square kilometers the company has 27 million native trees, equivalent to 51 million cubic meters of lumber. Its reforestation activities extend over many regions of Brazil, with 360 million trees having already been planted. The many species of these plantings, conservative estimates indicate, will render 990 million cubic meters of lumber when cutting time arrives.

"ARAUCARIA Angustifolia", "Imbuia" and cedars are among the species which "Madebrás" is offering on international markets. With 91 lumber yards, factories and plank cutting installations and factories producing cellulose and sap, cardboard and other products, including pre-fabricated wooden houses, doors, parquet flooring and pre-fabricated farm sheds, the association has its operational base in the three southern states of Brazil. Almost a century of experience in this temperate zone of vast lumber reserves and constant technological research, enable the association to select the most appropriate specimen for a sophisticated and highly demanding international market. Not the least of its facilities is its ability for prompt delivery, especially through the ports of Rio Grande, São Francisco, Paranaguá, Santos, Vitória, Salvador and Belém.

Within its 140,000 square kilometres, the Madebrás has 27 million native trees, equivalent to 51 million cubic meters of lumber. Its reforestation activities extend over many regions of the country, with 360 million trees already planted.

THE ROLE OF THE MINISTRY OF LABOR



The Second National Development Plan, in its every detail, is concerned with the development of Brazil's human resources. Every Brazilian is to earn more, live better and provide for his immediate family and dependents in a manner commensurate with the nation's pace of progress and development.

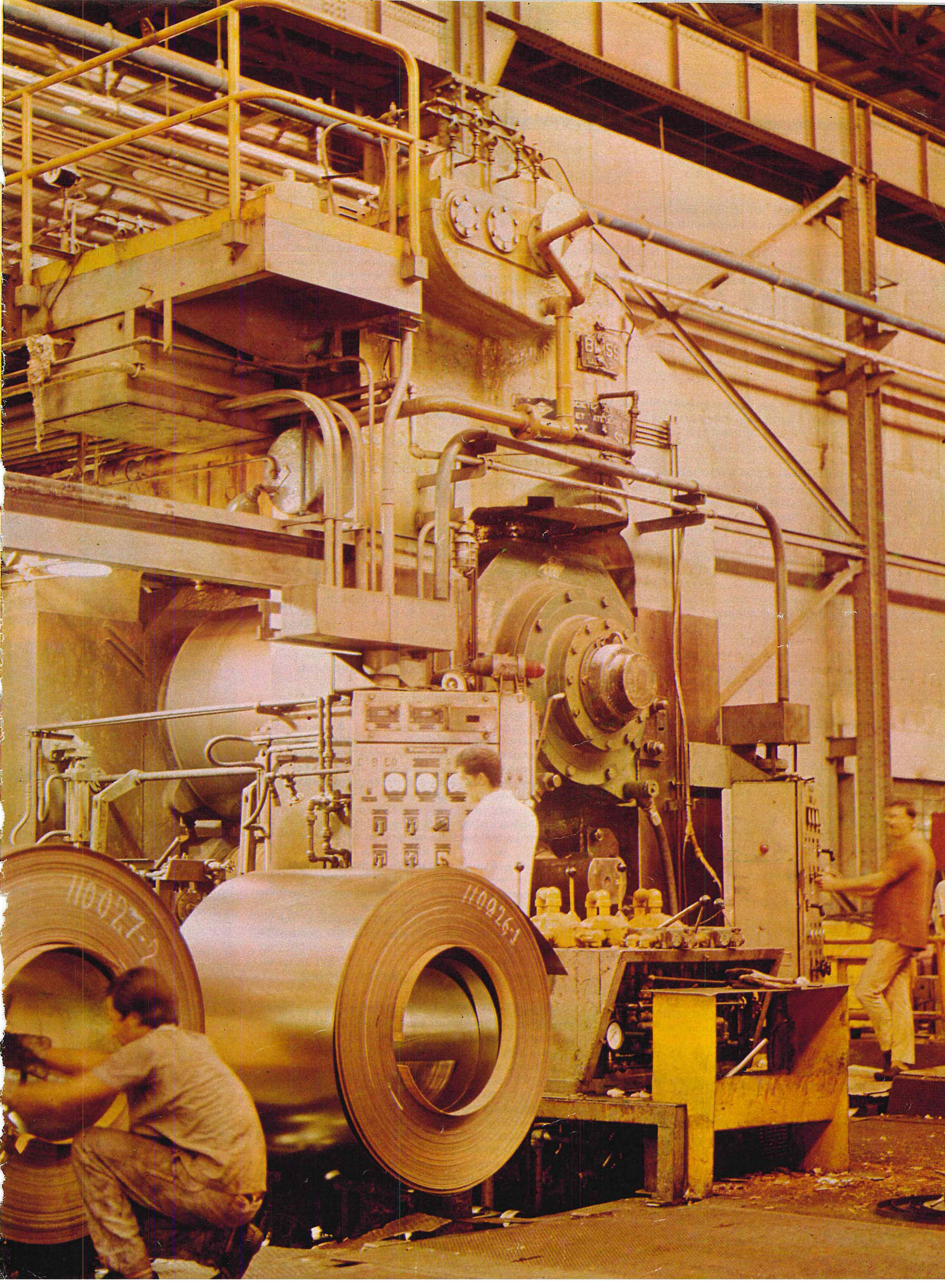
The Brazilian Ministry of Labor has been assigned the task of developing the nation's potentially enormous human resources, of protecting the working man through enforcement and compliance with labor laws that are, undoubtedly, among the most advanced in the present-day world.

During the current five-year development plan, the Ministry of Labor will develop and implement specialized training programs, programs concerning accident prevention and environmental hygiene of working masses, strengthening of labor unions and total enforcement of labor laws, in addition to assisting the Government in its efforts to bring in line minimum wages legislation with realistic concepts of income vs living cost.

The development and implementation of the Ministry's many projects and responsibilities are distributed between the Ministry's secretariats of manpower, labor relations, employment and wage assessment secretariat and 21 Regional Labor Precincts (or Divisions), one in every state of the Union.

AGRIMENSURA

Land measuring *is one of technical courses within the 22 priority areas offered by the Special Program of Scholarships and Studies, maintained by the Ministry of Labor, in order to improve and upgrade semi-skilled labor throughout Brazil. In collaboration with SIDERBRÁS, the Ministry is currently developing a project designed to select and train workmen for the national steel industry.*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THE union's educational facilities are being aided by

IN 1974 Brazil had 104 million inhabitants, indicating an annual population growth of 2.9 per cent.

In the meantime, Brazil's economic rate of growth allows for an estimated 3.5 per cent of new employment opportunities, annually, or 1,320,000 new jobs this year alone.

In view of these almost irrefutable statistics, the Ministry of Labor will be facing, during the coming years, the tremendous task of selecting, orienting, training and placing this additional labor force toward most productive activity, depending on individual capacity and professional skill.

Fully aware of the task and demands ahead, the Secretariat of Manpower, even now, is trying to estimate and equate demand and supply formulae for the next few years. In this enormous task, the Secretariat is even now formulating plans to train three million workers in many specialized fields.

The Ministry's Secretariat of Manpower is currently chiefly concerned with civil construction demand for skilled and semi-skilled labor. In other fields, such as highway construction, agriculture, the fishing industry, mechanical engineering, metallurgical and electric industries, public health, and even domestic help, training of personnel and preparing it for adequate services preoccupies the Secreatriat's best brains.

All training activities are being carried out through Intensive Program of Manpower Preparation of the Secretariat for Manpower and by agreements with other governmental agencies and private establishments with experience of turning out professionals.

SAFETY AND HYGIENE IN LABOR ACTIVITIES ● Safety and hygiene labor activities are emphasized in the Second National Development Plan, to reduce accidents while men are working and to safeguard their health.

The Ministry's Secretariat of Labor Relations, in collaboration with the National Department of Labor Safety and Hygiene, had been launching annual campaigns to alert both the workers and employees to the problems of safety and hygiene. Simultaneously, laws now require that any enterprise with more than 100 workers must have its own accident prevention and medical service, consisting of a doctor, a nurse and a safety supervisor.

Specialized courses during the 1973—'74 period were attended by 2,750 doctors, 1,900 engineers, 8,340 supervisors and 1,500 nursing personnel, a total of 14,500 persons. With view to strengthening this program, an additional 14,000 professionals in accident prevention and labor hygiene will this year be added to the cadres, as well as 6,800 labor union officials will attend courses.

All training programs are being coordinated by the National Foundation for Labor Safety, Hygiene and Medicine, an entity linked to the Ministry of Labor.

STRONG LABOR UNIONS ● The Ministry of Labor is striving toward strengthening of the labor unions and their legitimate activities, to protect the working men's interests and encourage cooperative association of working masses that would benefit national development.

During the last decade, the number of Brazilian labor unions rose from 2,700 to 6,700. At present, the unions, in addition to serving as a bulwork for the defense of labor rights and interests, maintain valuable assistance services, including educational facilities, for its members and their dependents. Almost all unions have their own medical, dental and legal services. Many unions have their own clubs and social centers, sports facilities and even vacation colonies.

In its policy of safeguarding the workers' lot, the Ministry concedes loans to labor unions for acquisition and improvement of its headquarters, medical services and schools, clubs and vacation colonies, as well as making outright grants in cash and equipment.

Through specialized courses, the Ministry is also engaged in forming union administrators and is promoting home economics for union members and their dependents.

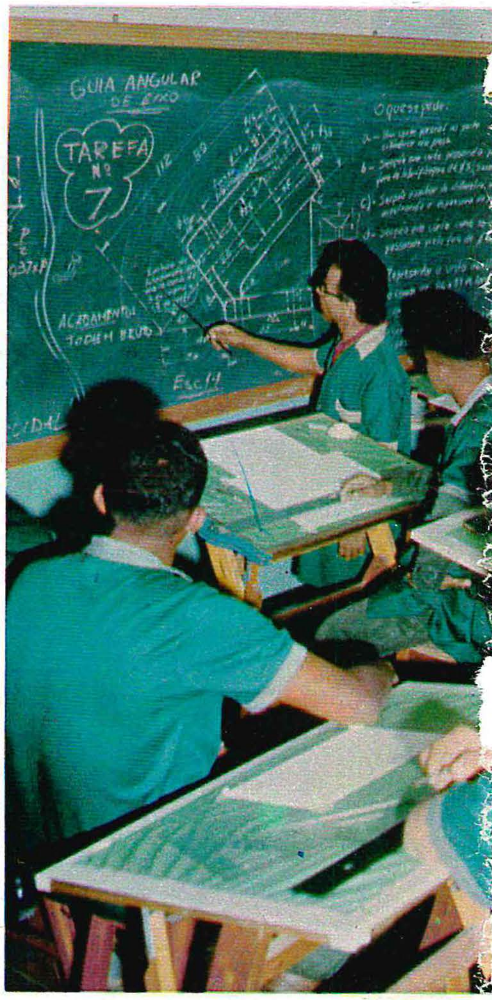
SCHOLARSHIPS ● The Ministry's Special Scholarship Program had granted, between the years 1964 — '74, more than one million scholarships to labor union members and/or their dependents. The scholarships embraced basic education and specialized training to update the workers' professional skills and thus their earning opportunities.

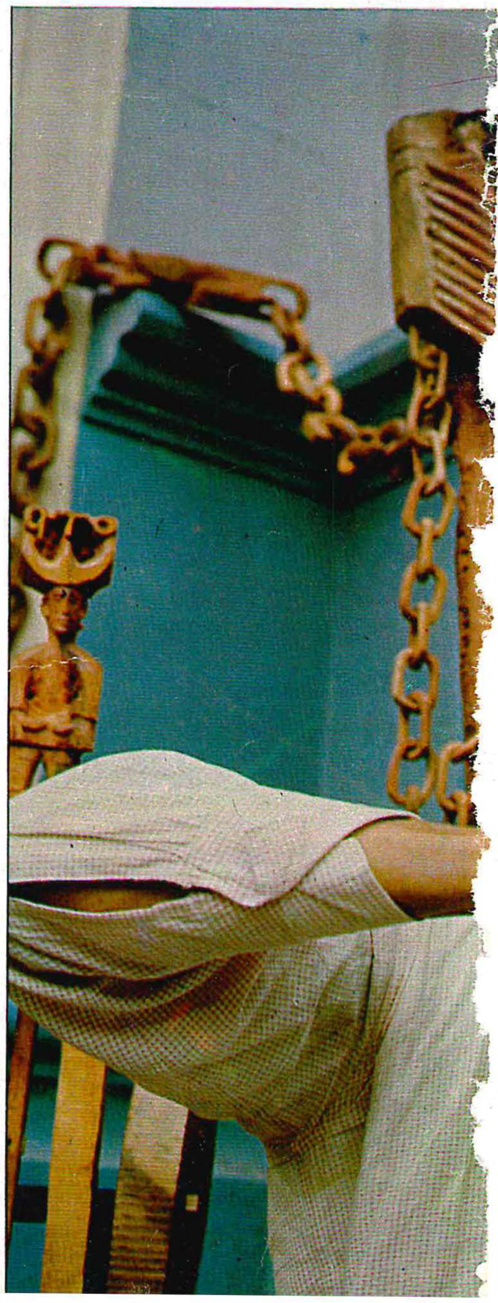
During the next five years (1975-'79) 1,400,000 scholarships will be made available, including 11,600 for priority training courses, in line with the requirements of national development.

EMPLOYMENT ● All employment activities are the responsibility of the Secretariat of Employment and Remuneration. It is the Ministry's aim to introduce throughout Brazil an integrated system of employment and job placement agencies, as well as information, orientation and studies as to employment market conditions. To attain this objective, agencies will be installed in all state capitals and all cities with a population of or more than 250,000. These agencies will be fully integrated with those already existing, whether official or private. Likewise, technical assistance and personnel training will be made available to these agencies. Between 1975 and '79, 23 regional agencies will be set up and 14 totally reequipped. Altogether, during the next five years, 100 agencies or posts will be established and more than 300 persons especially trained to run them. It is estimated that job placements through these units will affect at least 500,000 job-seeking persons per year.

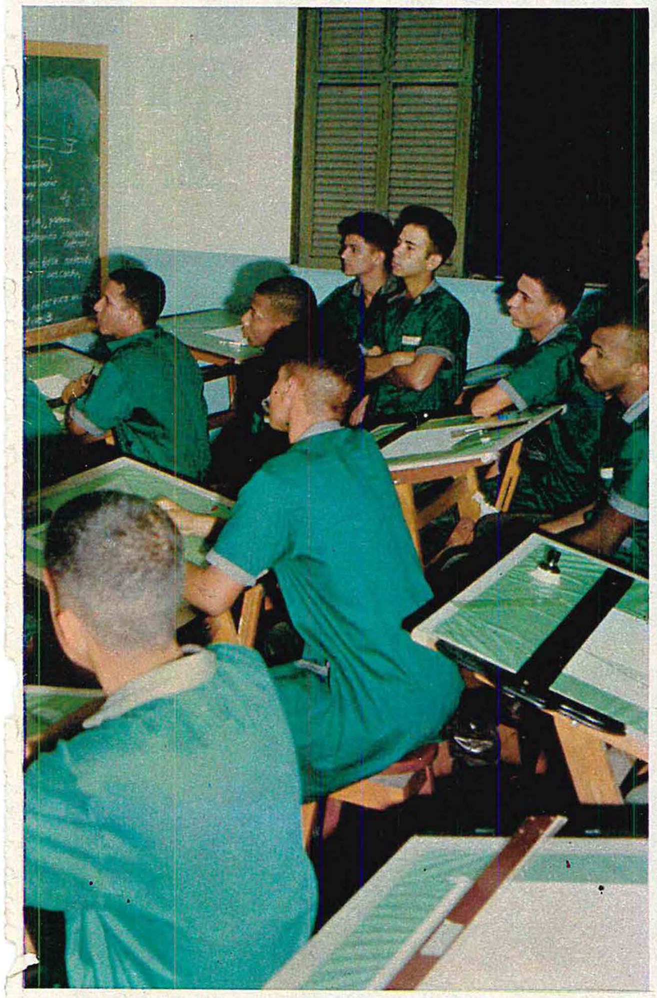
SALARY POLICY ● The Brazilian wage and salary policy, introduced in 1964, is aimed principally toward equitable periodic readjustments, based on a minimum percentage to be added to the previous year's levels.

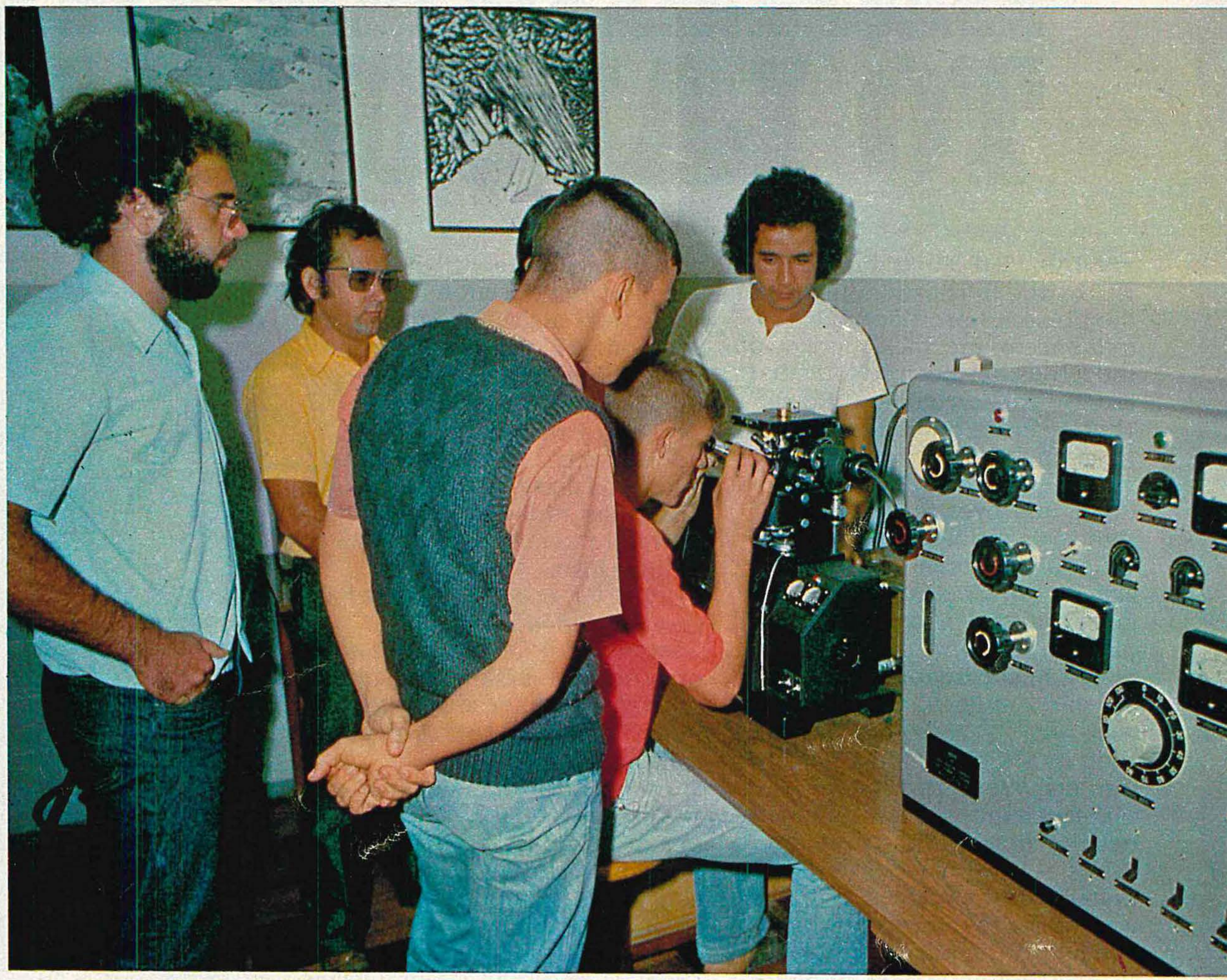
Brazil's national development effort had resulted in a great demand for manpower, especially in major urban centers, which by itself had influenced higher wages, actually much higher, in some cases, than conceded by official policy. This reflects well the principles of free bargaining between employers and employees with respect to salary and wage adjustments.

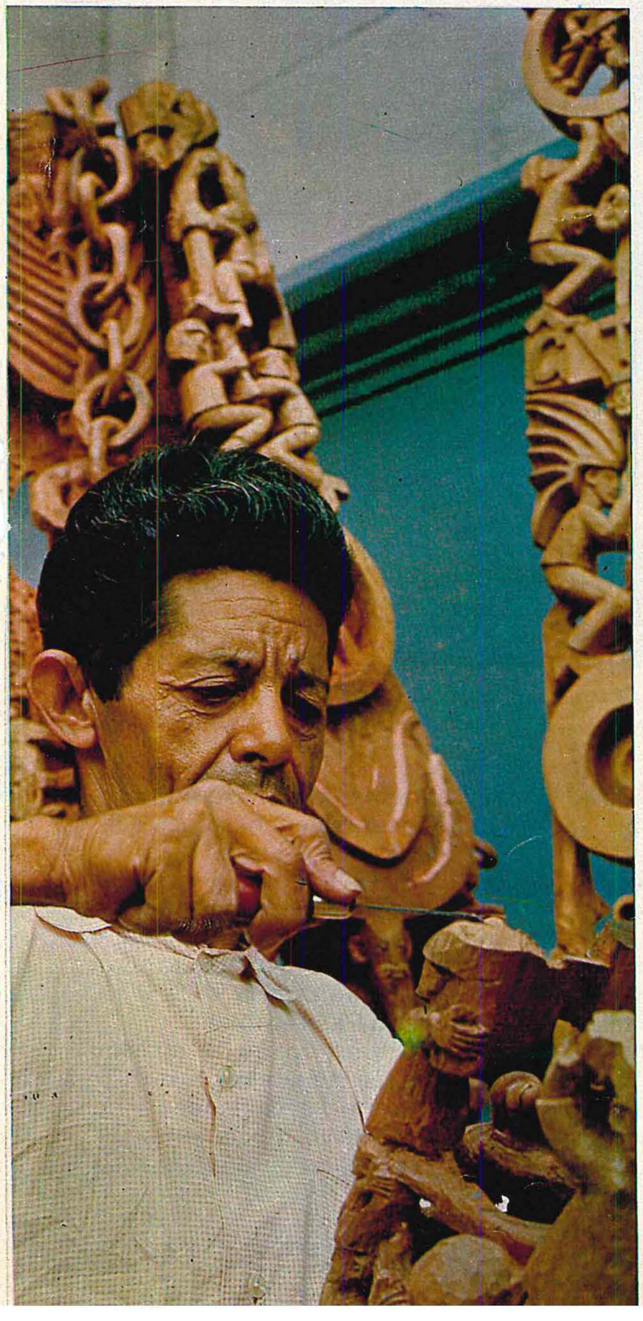




the Ministry's scholarship program, available to members and dependents







Training agreements *between the Ministry of Labor and the Army afford professional formation to the recruits. With the premise that "to educate is to invest", the Ministry sponsors a scholarship program which embraces a host of technical courses. The First National Meet of Arts and Crafts, recently held in Brasília (at left), resulted in adopting major measures to protect and promote this activity. And through an agreement with the Ministry of the Interior, training projects to prepare manpower in the vast Amazon region are being amplified (above).*

BRAZILIAN INDUSTRY G TO LABOURERS AND TH

ESTABLISHED and maintained by the Brazilian industries, the powerful presence and influence of the Social Service of Industries has been felt for the last 29 years throughout Brazil. The organization contributes most effectively towards the workmen's welfare and in so doing improves the living standards of the country, "conducting its multiple welfare activities in strict conformity with governmental programs at national, regional and local levels, in accordance with specific and peculiar needs of each area."
With its Social Centers, Activities Centers, Workers' Clubs, assistance groups, educational, health, cultural and recreation activities, SESI reaches its beneficiaries at places of their work and life in an atmosphere familiar to them, de-centralizing its activities and maintaining its facilities at industrial sites throughout the nation.
With 1,711 operational units dedicated to education; 509 health posts; 743 rest and rehabilitation centers; 349 social service offices; and 461 mutual coöperation and assistance establishments, totalling 3,773 operational units whose beneficiaries and their dependents count in millions in 510 counties, the Social Service of Industries — SESI, associated with the National Confederation of Industries, may be considered the strongest arm, assisting the Government in its efforts for social integration and the upgrading of living standards of every Brazilian. The organization's aims and activities coincide and mesh perfectly with the Government Plan since they invest heavily in human resources. The Second National Development Plan emphasizes that "social investments, besides their long-range productivity objectives, must reach ever increasing numbers of people in direct ratio to the magnitude of the national gross product and the continuing process of national development."
Social Services at places of work; in the communities, in educational and health sectors; medical, dental and legal assistance; home economics, hygiene and work safety; sport and play; cultural activities; elementary education and pre-school activities, besides promoting social integration throughout Brazil, are, among other things, expressions of dynamic actions and performances in multi-purpose and specialized centers of an institution founded in 1946 through the initiative of Brazilian industrialists.
In 1974, 70, 648,621 persons had been attended to in 3,773 operational units of SESI in areas of education, health, rest and rehabilitation, social services and in the field of cooperation and assistance.
Specifically, in the educational and training sector, 553,005 persons have been attended to. The Social Service of Industries, concerned with educational, artistic and cultural programs, is upgrading a workman's or a child's mental and cultural levels in a steady process of developing one's potentialities, almost impossible of attaining under normal conditions, with a person lacking the opportunity and own resources.

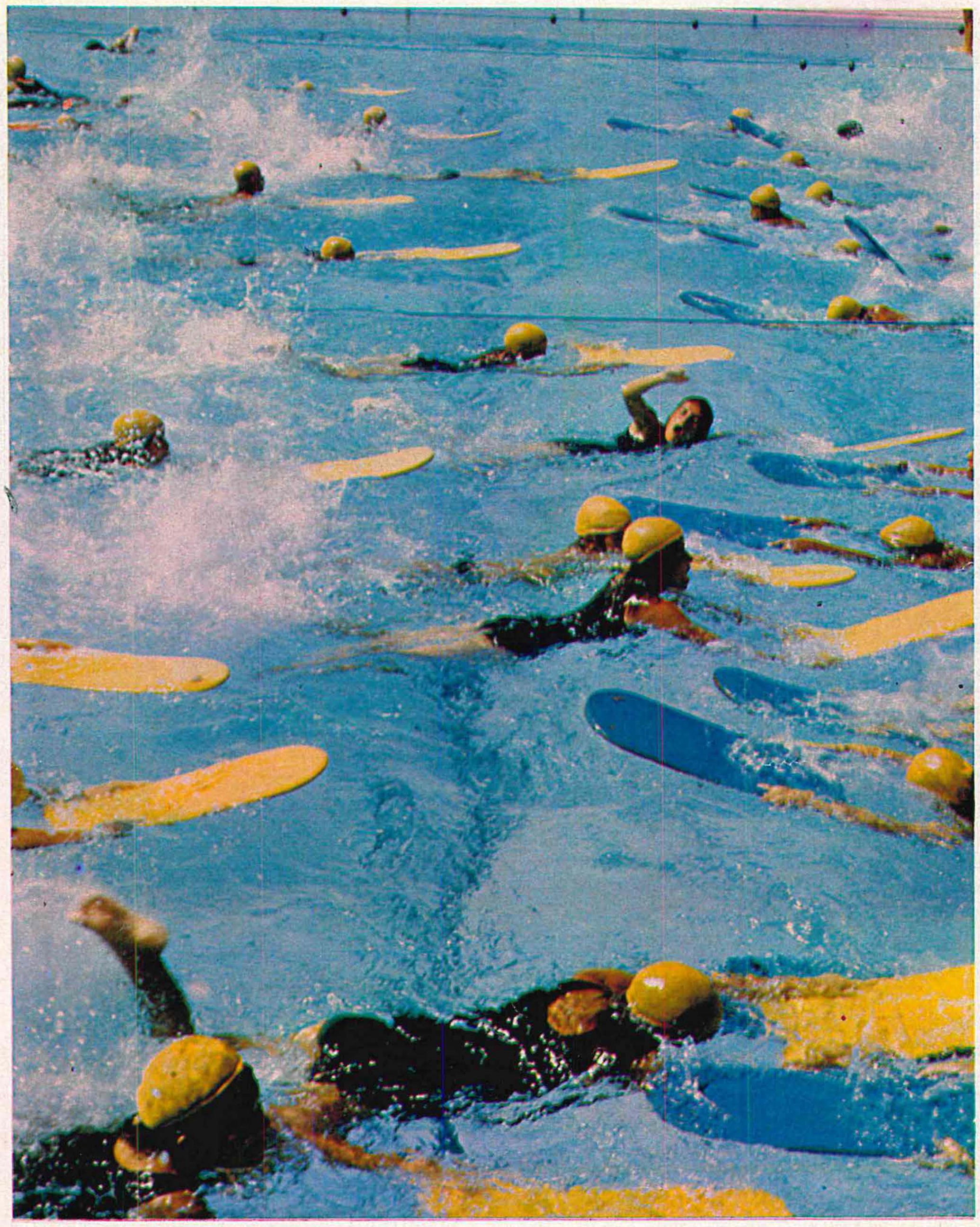
WITH limited fiscal means and opportunities, SESI's beneficiaries and their dependents enjoy the privilege of gratuitously extended facilities to partake of cultural influences, each one according to his or her own taste and inclination. Thus enriching an individual spiritually and culturally, it makes him more adaptable to the world in which he lives, eliminating tensions based on ignorance, liberating his mind toward productive skills and definitely improving his functional and social behavior.
In the health area, SESI concentrates on preventive measures, hygiene and work safety. In 1974, 5,715,143 persons have been treated in the organization's medical and dental clinics.
Cognizant of the grave situation in respect of work accidents, SESI is developing an intensive program of accident prevention and work safety, as reflected in 1974 statistical data: 2,388,337 workmen and 5,639 industrial establishments have been attended through SESI's specialized service in this area.

In 1974, *SESI sponsored 71,043 athletic presentations in which a total of 2,435,998 persons took part, specially the young ones.*

Social Services took care last year of 454,993 persons in communities, while 234,833 specific work cases were handled in various fields of social welfare activities.
In areas of economic, financial and nutritional assistance, a total of 51,616,280 cases were taken care of in 1974, the assistance consisting of foodstuffs, domestic utilities and pharmaceutical products.

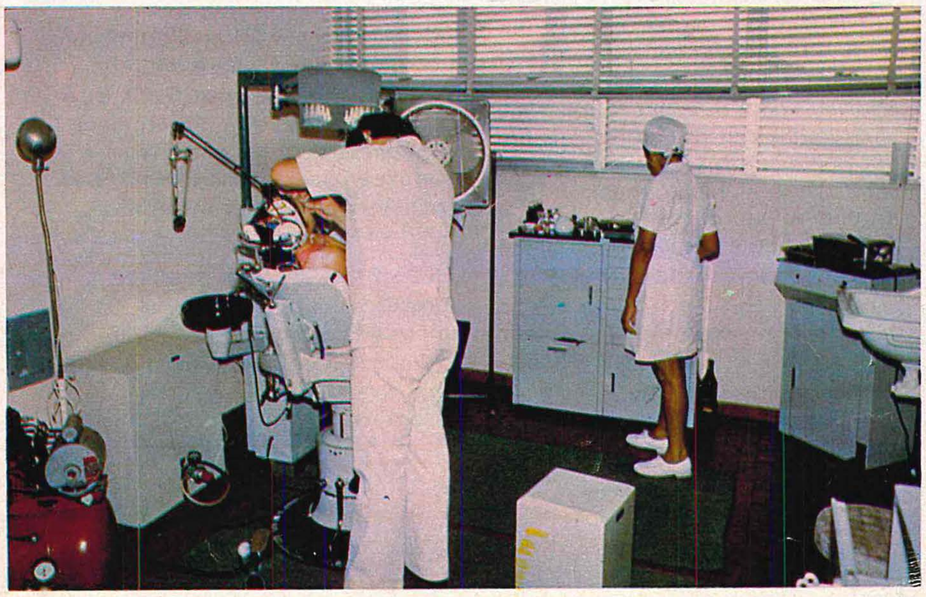
A vast network of playground and sports centers has been set up by the organization for its beneficiaries to combine sports with physical fitness education in a program of inestimable value in the context of social education and integration. In 1974, SESI sponsored 71,043 athletic presentations, cycling, gymnastic exhibitions, swimming, basketball, volleyball and football (soccer) meets, ping-

IVES SOCIAL ASSISTANCE EIR FAMILIES



Last year, *more than 70,600,000 persons had been attended in the 3,773 units of SESI, in areas of education, sports, health and rehabilitation.*

Sesi *beneficiaries and their dependents enjoy the privilege of gratuitously extended facilities to partake of cultural activities.*



pong and numerous other competitive games and exhibitons in which a total of 2,435,998 persons took part.

HAVING assumed the burden of providing social service on a grand scale, thus supplementing and aiding governmental efforts, the Brazilian industrialists, through SESI, enable its manpower "to better carry out their assigned tasks and encourage them to improve their efficiency and their personal living standards." The National Council and Regional Councils of SESI constitute the organization's governing body. The National Department, with a nationwide jurisdiction, and the Regional Departments and agencies complete the executive infrastructure and control SESI's operational activities.

THE MIN SECURIT

THE Ministry of Social Security and Welfare was established in early 1974, shortly after General Ernesto Geisel had taken over the reins of government from his predecessor. The President and his immediate collaborators felt that the time had arrived for social security and public welfare to assume new dimensions and responsibilities. This was dictated by the country's continued economic expansion and unprecedented urban growth which imposed new responsibilities toward expanding social security, justified, among other reasons, by a sense of justice. Moreover, extending and expanding social security and welfare to rural areas was but a logical means of attaining equilibrium in this field, now that the wealth of the nation could well afford it. Within a remarkably short time, the Ministry has been able to produce and demonstrate outstanding results.

Among certain measures of unquestionable social significance duly adopted are: Plan of Prompt Action which has upgraded medical assistance; social security which is now being extended to people aged 70 or more and invalids, even though they may never have contributed during their working days towards social security fund; the payment of salary to expectant mothers by the Social Security Institute; the establishment of accident insurance for rural workers; new and better legislation concerning social security; the establishment of computerized processing of data pertaining to social security, to enable the Ministry and all agencies connected with it to act more rapidly in all cases involving previous information data. Two bills of major importance have recently been submitted by the Ministry for prior presidential appreciation, before being sent to the National Congress. One of the bills, if passed into law, would back-date the years of service and layoffs for pension purposes; the other would exempt persons who had been pensioned off from taxation.

A nagging problem that existed for a long time past concerns abandoned children, mostly in large urban centers such as Rio de Janeiro and São Paulo. The Ministry has elaborated plans on a national level which are being executed by state secretaries in 14 states of the Union. These plans provide for the establishment of social assistance centers for the rehabilitation and vocational training of abandoned minors. Through an agreement with the Ministry of Public Health, needy families will receive special nutrition assistance for children up to the age of 6.

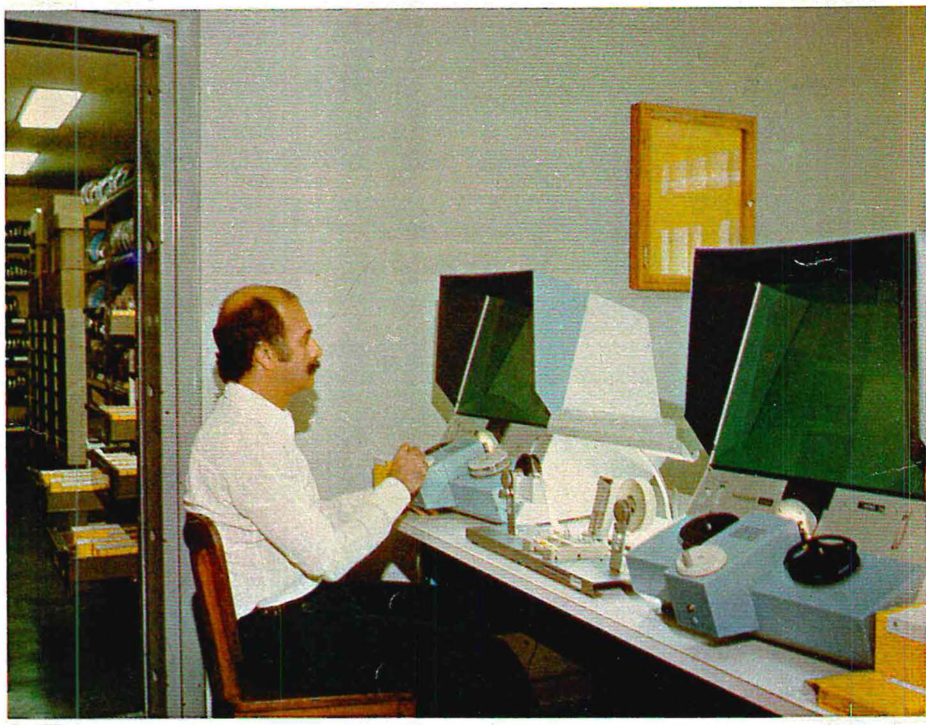
Priority attention has been given to minimize bureaucratic procedures in order to speed up aid to those entitled to it under the provisions of prevailing social security laws and regulations. The status of all those who had been pensioned off after 1967 is being reviewed and revised by the Ministry's technicians with view to upgrading pensions in line with present economic conditions, principally the cost of living levels in different regions of the country.

THE MINISTRY OF SOCIAL SECURITY AND WELFARE IN 1974 ●

During the first five months of its existence (it was established in 1974), the Ministry of Social Security and Welfare accomplishments ranged from special provisions for the thousands of workers on the Itaipu project (the giant hydro-electric dam and plant, a joint Brazil — Paraguay enterprise) to programs of national significance, particularly in the field of medical assistance.

A host of decrees and bills already enacted into laws reflects the Ministry's tireless efforts in areas of social security and public welfare. To mention but a few: the transfer of responsibility for expectant mothers from employer to the Social Security Institute; aid to all persons above the age of 70 and the invalids; the establishment of accident insurance for rural workers; new data processing facilities.

The objectives outlined and emphasized by Minister Luiz Gonzaga do Nascimento in mid-1974 (he was sworn in on July 6, 1974) began being realized within months with active participation of the newly created Secretariat of Public Welfare. The National Fund for Medical Assistance will begin functioning shortly, to supercede various agencies and coordinate the activities of several separate agencies engaged in this activity. The aim is to separate entirely medical services from social security, as practiced in most other modern nations.



The establishment of computerized processing of data pertaining to social security makes easier and more efficient the services of the Ministry.

As the many new goals and objectives are being gradually realized in all areas of social security and public welfare, waiting lines, even though diminishing, still exist. The Ministry is working overtime to do away with queues, an unseemly sight and a hardship for those seeking aid. "Waiting lines are common where services to the masses are concerned," comments Minister Nascimento e Silva, "they may be observed in front of cinemas, in banks and at the airports and during elections. But they should not exist where people are looking for and expecting medical aid."

Among the first orders issued by the Minister was a directive to ascertain and identify causes and reasons for the waiting lines and to find solutions to eliminate them.

Another measure that followed on the heels of the establishment of the Ministry — and already being executed — was the creation, on optional basis, by companies with a large number of employees of "aid at home" services to ease off the heavy burdens imposed on the Social Security Institute's establishments.

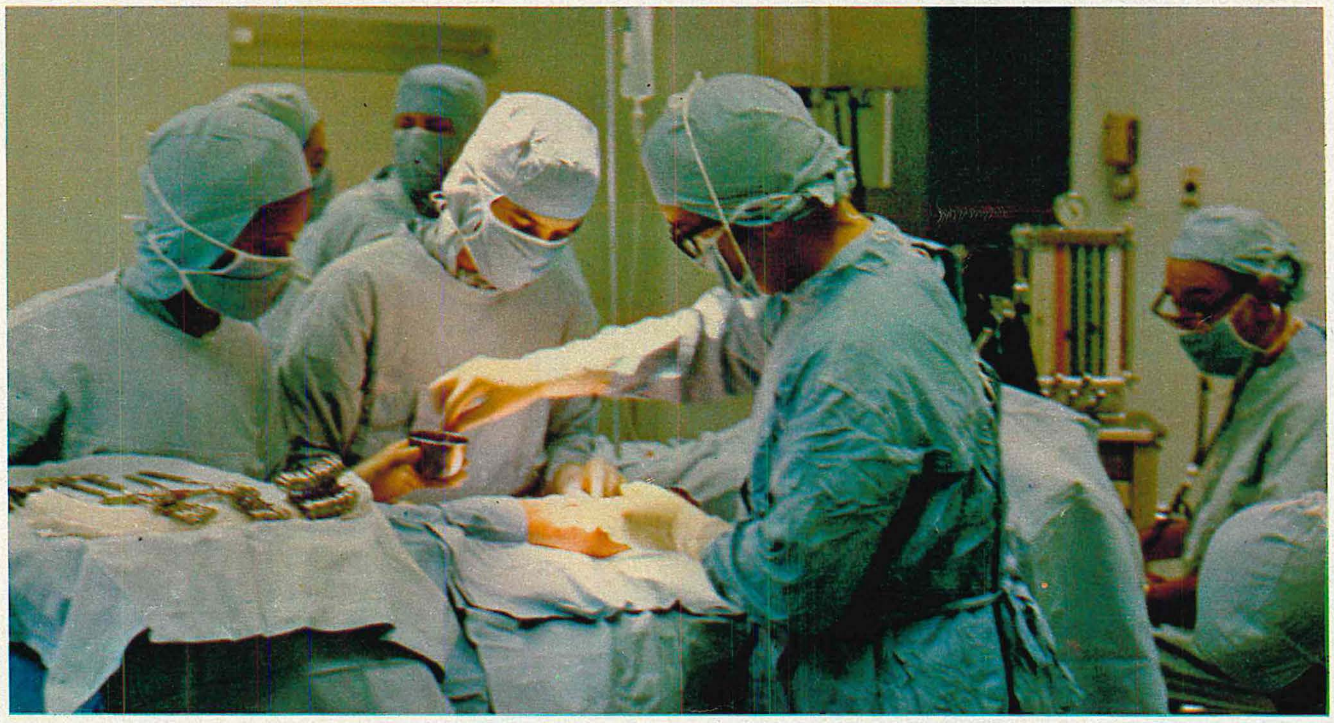
INDEBTEDNESS PARCELLED OUT ●

The Ministry of Social Security and Welfare, from its inception, took care of the problem of indebtedness that runs into high figures, incurred by business enterprises, educational institutions, counties and even the Union toward Social Security.

As to the educational institutions, the Minister had decreed, would be resolved at a later date, after a formula had been found that would not prejudice or put undue hardships for these institutions. The Municipal governments had been allowed to settle up in instalments. The Ministry of Social Security and Welfare had expended special privileges to government employees working in areas where there does not exist an IPASE post (IPASE is an organization assisting government workers). These people may now partake of Social Security Institute's facilities which cover the entire national territory.

PROMPT ACTION ● Of all the measures adopted, the most important, undoubtedly, is the Prompt Action Plan whose ultimate objective is to make medical assistance not only more accessible

ISTRY OF SOCIAL Y AND WELFARE



The most important of all measures recently adopted is the Prompt Action Plan, whose ultimate objective is to make medical assistance more accessible and immediate for all those entitled to social security and public welfare.

but immediate for all those entitled to social security and public welfare. The plan launched and being executed was in anticipation of the Federal Government's ample planning for general medical assistance to the public.

"DATAPREV" ● By a decree, the Minister of Social Security and Welfare had transformed the Data Processing Center into a public utility company with view to attending to the requirements of all agencies linked to the Ministry, flexible enough in the labor market, with the authority to select and hire its own technicians and specialists in order to obtain the best possible results of this computer system.

Also authorized was a 10 per cent extra pay — an advance, really, against future pay raises — to the wage earners, the pensioners and all beneficiaries of Social Security.

As part of the overall social security program, grants-in-aid equal to one half of the highest minimum salary prevailing at any time in the country were authorized to people aged 70 or more and to the totally disabled who, for any reason whatsoever, remained outside normal social security benefits. Already about 20,000 aged and disabled throughout Brazil have received these payments and the number is steadily increasing.

Almost simultaneously, medical assistance and other benefits had been extended to workers of 60 years or more who had been previously members of the National Institute of Social Security and who had previously been denied these benefits.

Another project, already passed into law, is related to "maternity salary" which has become the responsibility of Social Security rather than an employer's. The measure eliminates certain restrictions in the labor market, an anti-social concept which previously made it difficult for an expectant mother to find employment (the previous law required that an employer continue paying salary to an expectant mother during the three months of pregnancy when she was unable to attend to work).

The rural workers have been benefited through accident insurance which entitles him or her to fiscal assistance during infirmity and medical aid.

THE SOCIAL DEVELOPMENT COUNCIL ● To all these initiatives in the area of social security and public welfare, other measures, more ample in their concepts, are being elaborated by the Social Development Council with the collaboration of other ministries involved: The Ministry of Public Health, the Ministry of the Interior, the Ministry of Education and Culture and the Ministry of Labor.

At its first meeting during the latter part of last year, the Social Development Council had decided to establish a special Fund in Support of Social Development programs. At a subsequent meeting, the Council had defined the areas of competency and responsibility of the ministries of Public Health and Social Security and Welfare, administrative attributes of the universities and hospitals, as well as basic sanitary and hygiene responsibilities of the Government and training requirements for manpower for major programs.

Shortly afterwards, the Social Development Council submitted, and the President of the Republic approved, the establishment of a National Health System which would organize and coordinate all activities involving public health at federal, state and county levels. The objective: to promote and protect public health throughout the nation. The System additionally defines specific competence and responsibility of each Ministry involved and offers guidelines to state governments, territories, counties and the Federal District.

THE PROGRAM FOR 1975 ● Until it may be possible to mold the Ministry of Social Security and Welfare (it was only recently created) into an organization capable of promoting and executing all projects within its jurisdiction, at least two tasks will be performed during the current year: a) improved functioning of all agencies and institutions linked to the Ministry — with aspects to their administrative and legal structures; b) judicial implementation, in areas of the Ministry's direct responsibility, ~~social security and public welfare~~.

Improvements in the functioning of the National Institute of Social Security are of major concern to the Ministry. In recent months, the Ministry had prepared and put into effect detailed plans for the Institute to ensure rational development of its activities. Whatever final form social security may assume, the Institute will be able to carry on effectively, even with additional tasks and responsibilities. The other agencies and institutions linked to the Ministry, pending whatever new judicial innovations may be introduced, continue functioning as heretofore.

Legal implementations which may in future govern the Ministry's activities will certainly demand a series of measures such as: a) the establishment of a firm and definite social security policy and, as of immediately, a policy of public welfare, compatible with the nation's socio-economic progress; b) adjustment of all newly introduced measures and measures yet to be introduced to correspond to legal adjustments in this vital area; c) re-structuring, organization or re-organization of agencies and/or institutions charged with the execution of new programs.

In order to avoid duplication of efforts and to implement uniform activities in the area of Social Security and Public Welfare throughout the country, the Ministry is coordinating the utilization of federal, state and county resources.

TELECOMMUNICATIONS

BRAZIL IS HEARD ON THE WORLD SCENE

IT has been said and oft repeated in recent years that "Brazil has emerged from the silent world of the mute an deaf for a dialogue with every nation on earth — because Brazil has so much to say these days."

Brazil's progress in the field of telecommunications during the past 10 years has been truly impressive. Today, every major, medium and even the smallest cities and townships are linked — between themselves and the country's metropolitan areas, in a country of continental proportions. Moreover, contemporary Brazil is linked to the remotest places of the world, through every conceivable means of communications, a feat achieved through a relentless drive toward progress and development.

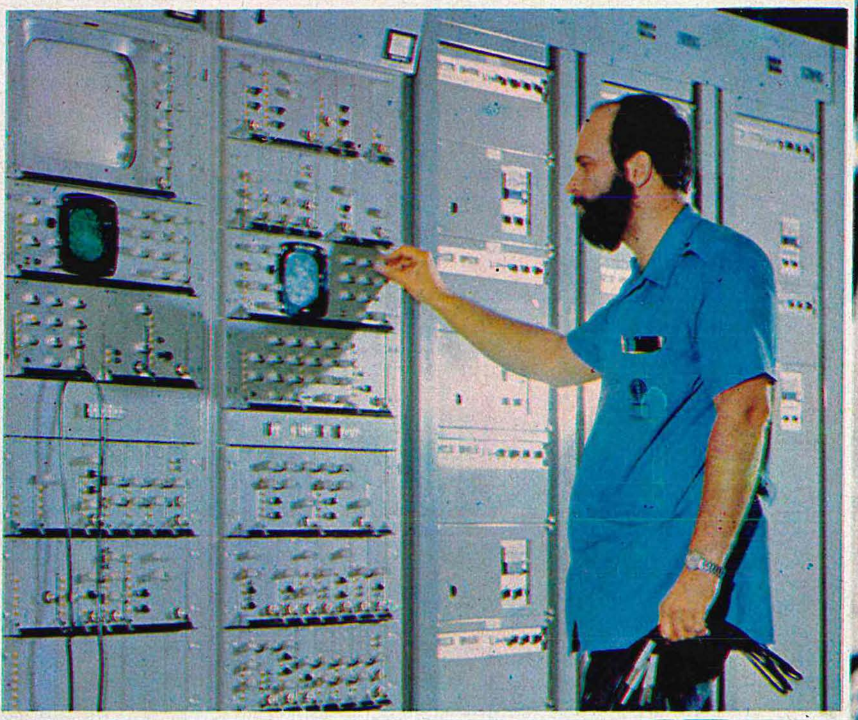
Only a decade or less ago, the situation was quite different. In that almost mute and deaf era, there existed in Brazil but three micro-wave low-capacity systems that served for communication between some state capitals and a few other cities, without, of course, any means for interstate TV transmissions.

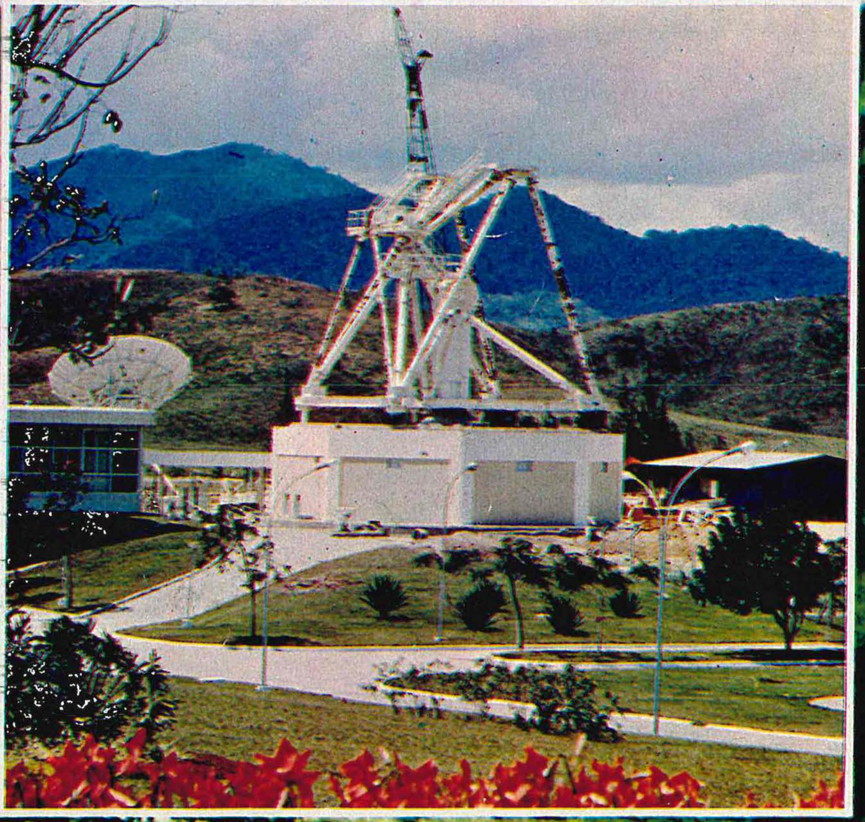
Today, high-capacity circuits are linking the entire country, from North to South, from East to West. TV programs of the major national networks presently reach every nook and cranny of this immense country.

The dramatic transformation — from a quasi mute and deaf into a loud-voiced giant — is, undoubtedly, due to the ceaseless efforts of the Ministry of Communications which, with the cooperation of EMBRATEL — the Brazilian Telecommunications Company — and state-operated entities, has succeeded in covering the entire national territory with a network of telecommunications, second to none in quality of equipment and operational efficiency.

The great task began in 1965, the year EMBRATEL was created. This giant effort not only continues but the pace with which communications systems are being perfected and installed throughout the national territory keeps increasing, under the overall coordination of the Ministry of Communications through TELEBRÁS. Cities such as Porto Velho in Rondônia and Rio Branco in Acre already transmit TV programs through stations recent installed. Take a look at the map to find out where these remote places are.

Present-day Brazil is surely forging ahead in the field of telecommunications like no other developing country in the world, employing the most modern technology and equipment.





The powerful antennae of the Embratel, since its foundation, in 1965, changed the brazilian landscape and put in communication the country with the whole world. Great areas of Brazil, practically isolated by an old and deficient communications system, became integrated in the development process of the country and emerged from a long silence.

TRANSMISSION via the troposphere, micro-waves, video-phone, direct interstate dialing — these are but some of the magic words introduced by a genuine revolution in our telecommunications

SIMULTANEOUSLY with tackling and resolving its infrastructure problems, Brazil began feeling preoccupied with international communication facilities. In 1965 Brazil had joined INTELSAT, the world organization which controls communications via the satellites. Two years later, in 1967, Brazil began construction of its Terrestrial Satellite Communications Center at Tanguá, in the State of Rio municipality of Itaboraí, astride BR-101 Highway. The Center was inaugurated in 1969. And from this start, Brazil continued steadily consolidating its position in the field of international communications.

Before 1965, Brazil's various and invariably inferior communication systems, even though operating at their maximum capacity without any feasibility of expansion, could only offer rather precarious telephone, telegraph and telex services. Moreover, interstate 'phone calls had to be operated mannually. The only direct dialing system that existed at that time was between Rio de Janeiro and São Paulo. Today, our giant system of telecommunications, installed and operated by EMBRATEL and state-owned entities, has at its disposal thousands of kilometers of micro-wave trunklines covering a vast territory. Likewise, crisscrossing the immense Trans-Amazon region measured in millions of square kilometers, there exist today readily available means of communications, including tropospheric transmissions by EMBRATEL. In every major Brazilian city there are today hundreds of highly sophisticated installations, including inter-city and inter-state communications facilities operated automatically. And the further Brazil progresses in the field of telecommunications, under the auspices of the TELEBRÁS group of companies, the more efficient are becoming our telephone, telegraph and telex services.

Above — correspondence is
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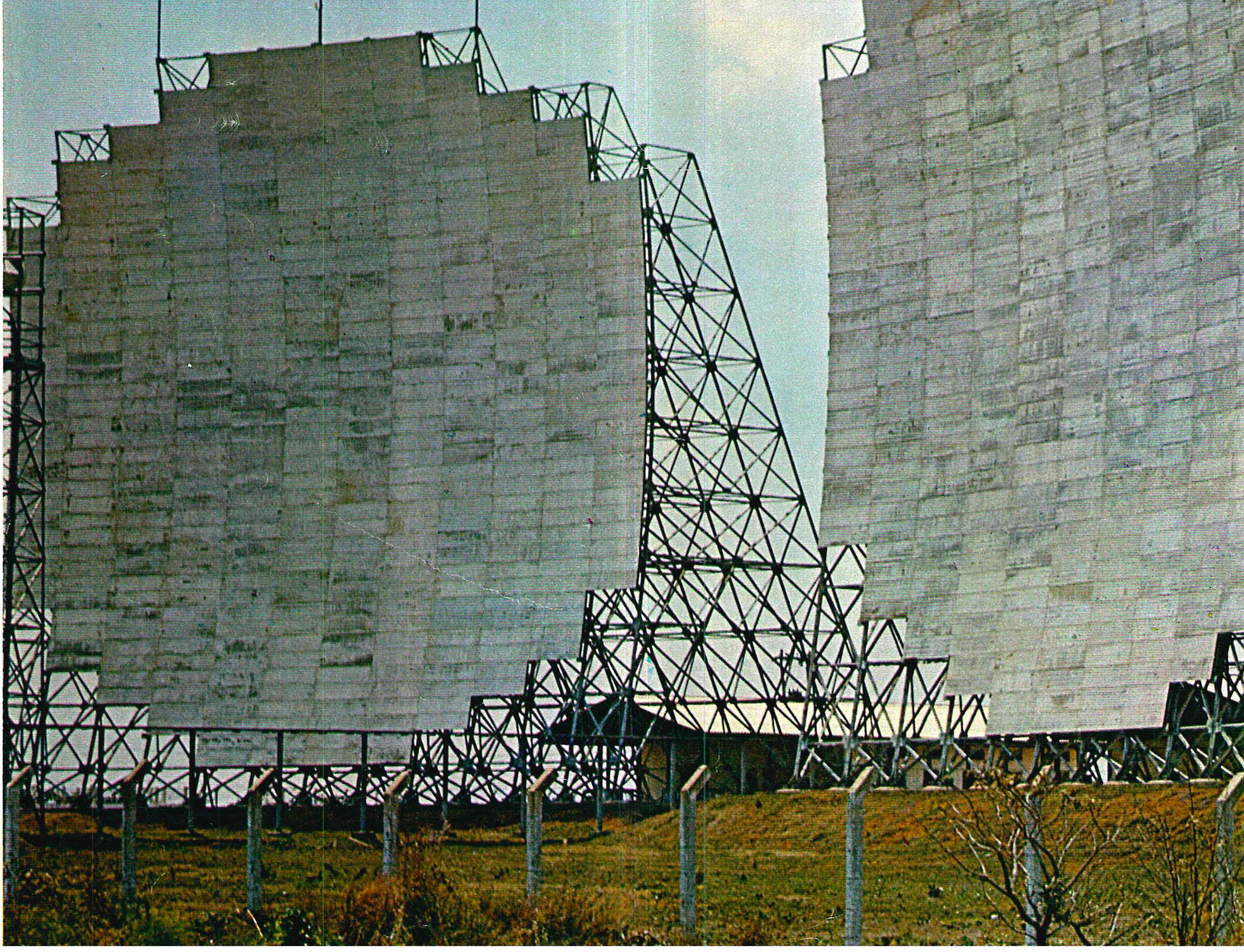
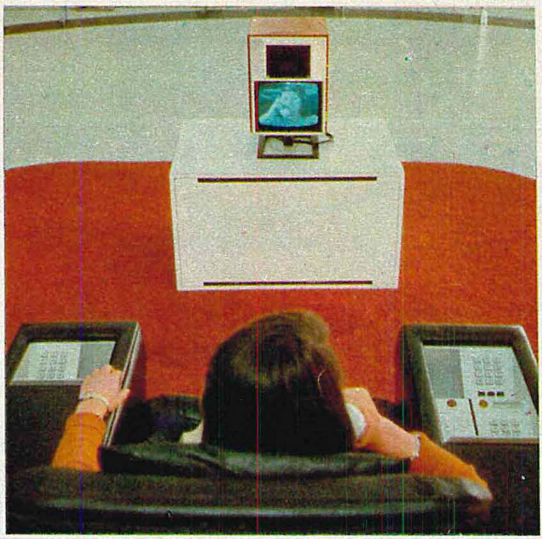
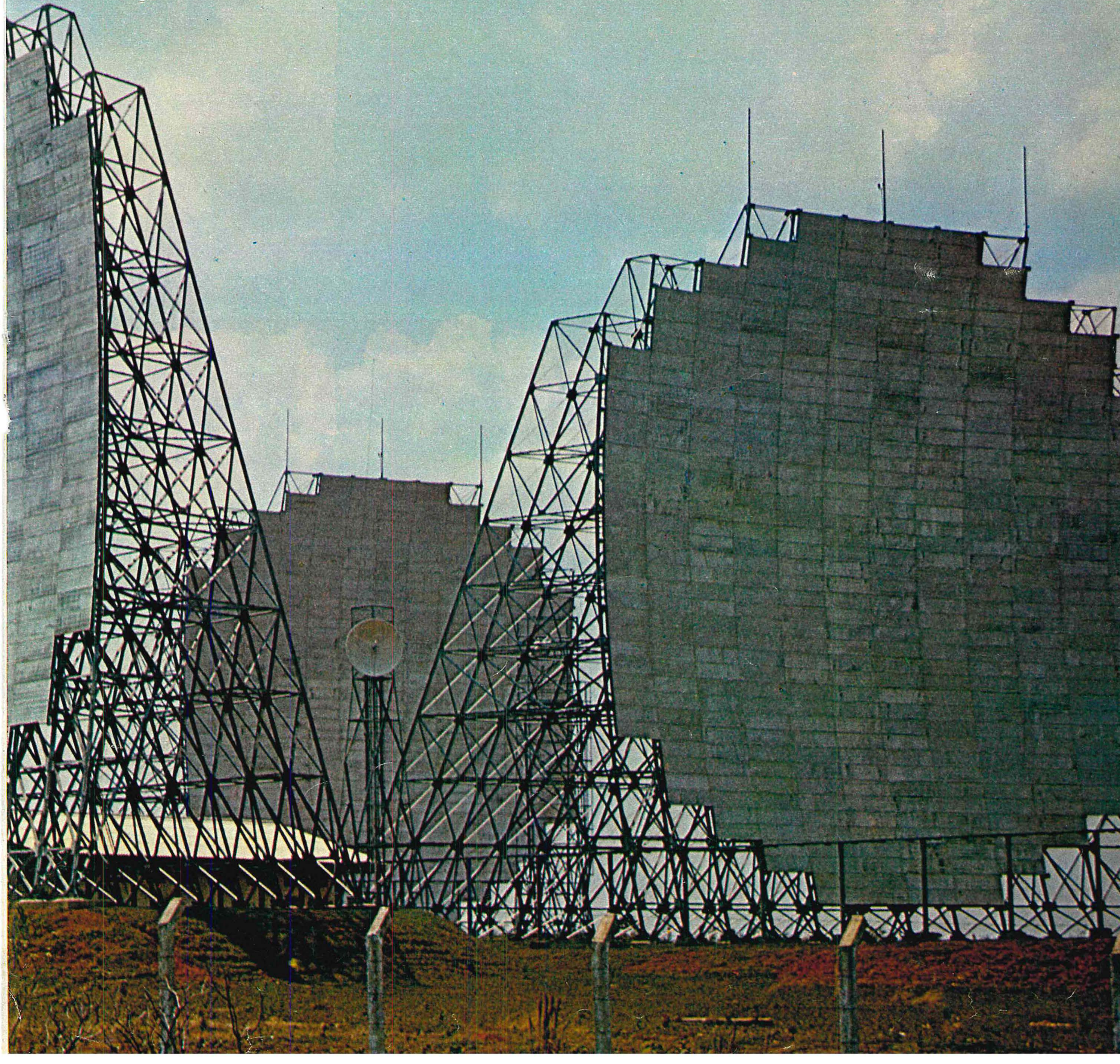
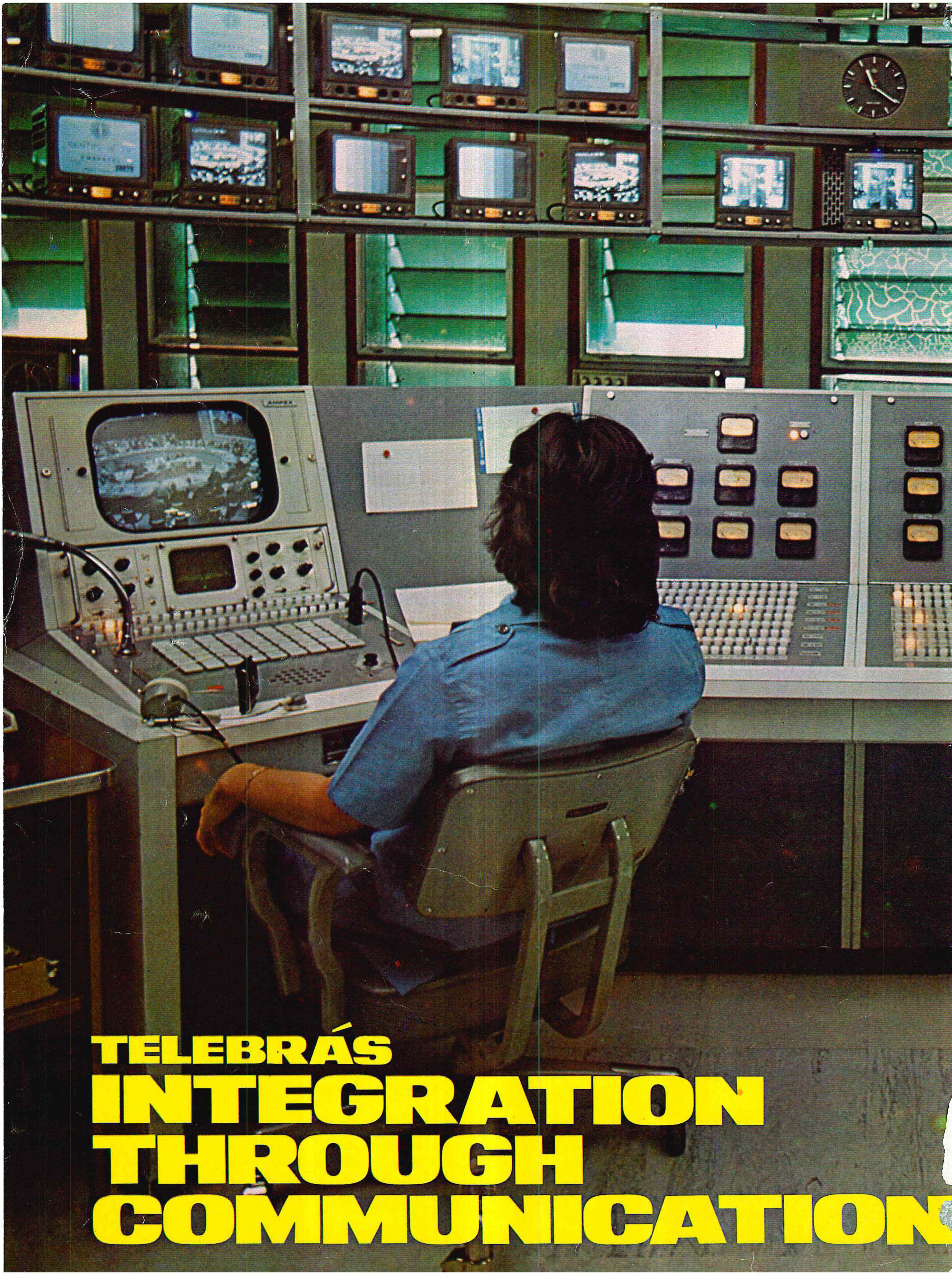




being sorted out electronically; video-phone equipment of São Paulo telecommunications system; larger picture shows country.





TELEBRÁS

INTEGRATION THROUGH COMMUNICATION

DURING the next five years Brazil will have achieved an unprecedented progress in the field of telecommunications. In addition to expanding its communications systems, quantitatively and qualitatively, the grand effort will embrace every state and territory. Particular attention will be paid to telephone services which will be virtually trebled. Other services — telex, telegraph, TV transmissions and radio "data services" — will be likewise expanded. The establishment of transmission stations along the coast will enable maritime traffic to be linked directly to terrestrial public traffic.

This expansion program envisages, in final analysis, the filling of existing gaps in the overall telecommunications services. Most specifically, the improvement of telephone services will benefit millions of people with the elimination of overloading of present systems and certain defects that still prevail, to the detriment — and irritation — of subscribers and the general public dependent upon the use of 'phone connections.

The companies which operate telecommunication systems will not be satisfied with just expanding their services. Ways and means and the most modern methods of maintainance will be introduced and applied, in order to reduce the rate of defects, which automatically cause connection delays, in city and inter-state services. The direct dialing systems will be immeasurably amplified, the aim being that this system should reach at least 90 per cent of all inter-state and inter-city connections. At the same time, about one quarter of all telephone equipment today in use in Brazil will be substituted by more adequate, up to date equipment. By the end of 1979, we will have attained a situation whereby there will be 6.6 telephones throughout the country for every 100 persons, a percentage two and a half times superior to that of today. Better service, greater efficiency throughout the national territory, these are the objectives of TELEBRÁS, in accordance with plans and specifications laid down by the Ministry of Communications.

At the end of 1973 the demand, in Brazil, was of more than 3.930.000 telephones and only existed then, in service, 2.415.700. The deficit was, in consequence, of more than 1.500.000 telephones. With the expansion projects, in 1979 will not exist repressed demand.

Telebrás group to invest about US$ 6,5 billion during next five years in 12 great projects

THE Telebrás group of companies will invest 43 billion cruzeiros during the next five years in 12 great projects. Embratel is being alloted 3.4 billion cruzeiros. Expansion and modernization of telephone systems will absorb 86 per cent of the total: 16 billion cruzeiros will be invested in São Paulo; 7 billion in the newly merged states of Guanabara and Rio de Janeiro; 4 billion in Rio Grande do Sul. More than a billion cruzeiros are destined for telegraph, telex and data transmission programs. Additionally, of special significance is the projected Studies Center of the Ministry of Communications which will be dedicated to progressive development of national technology in the field of telecommunications, research and the development of human resources.

Brazilian Telecommunications Company (Embratel) and the Second National Development Plan

The Terrestrial Satellite Communications Center, in Itaboraí, State of Rio de Janeiro.

Under the Second National Development Plan, the Telebrás group of companies has been assigned the responsibility of planning and executing some of the major projects, described below. These projects must be completed by 1979.

Expansion and modernization of public telephone systems — the objective is to install and expand city telephone services in 2,900 localities, completely automating these services, as well as expand and modernize inter-city networks with automatic processing of 90 per cent of calls through 115,000 circuits. This program will require an investment of 37 billion cruzeiros: 16 billion in São Paulo; almost 7 billion in the recently merged states of Guanabara and Rio de Janeiro.

Installation and completion of the basic EMBRATEL networks — will require an investment of 3 billion cruzeiros. The network consists of about 125,000 trunklines and 55 million kilometers of telephone wires.

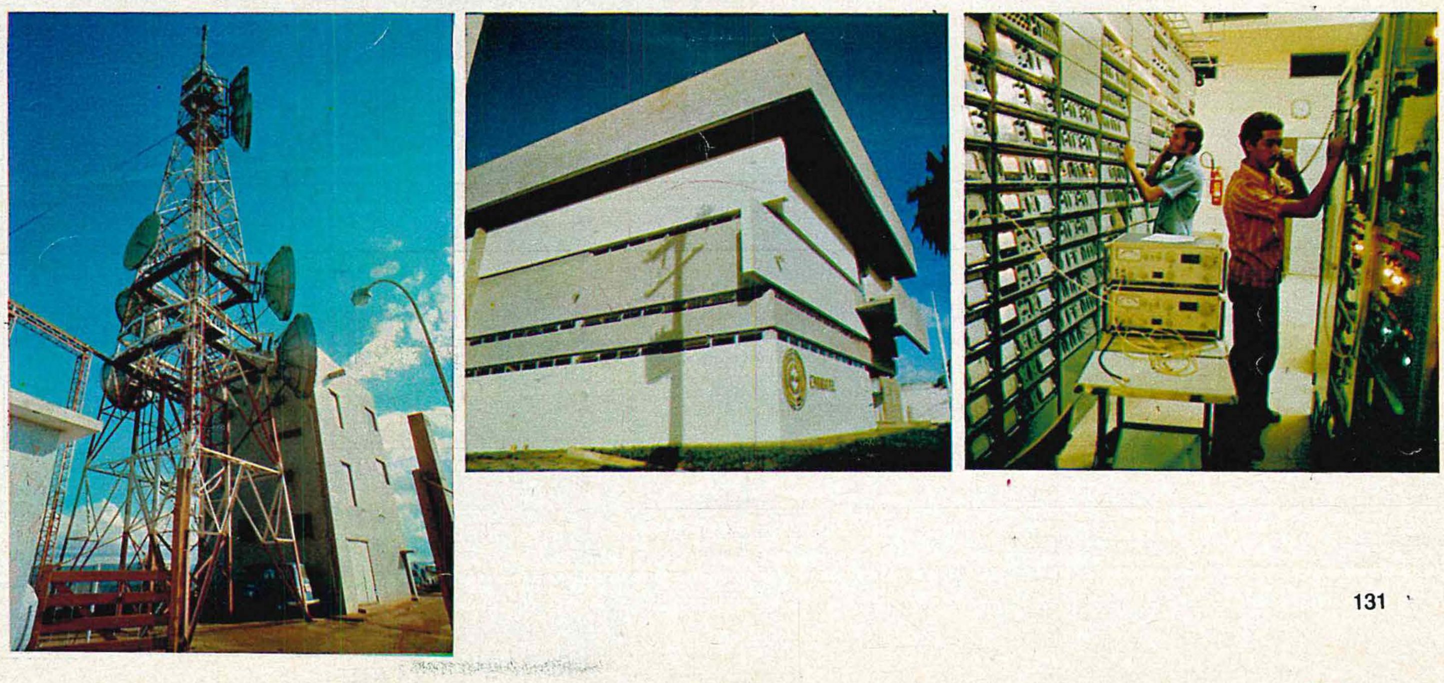
EMBRATEL international communications systems — the project envisages a new submarine cable with the United States, expansion of communications via the satellites and the linking of Brazil with other South American countries via terrestial facilities.

Coastal EMBRATEL stations — this project deals with the installation of 16 radio stations along the Brazilian coastline, to aid shipping and control maritime traffic, the facility to be interconnected with national inland telecommunications systems.

National Audio and TV network — this project requires the installation of 34 TV centers, by EMBRATEL, and re-transmission facilities based on micro-wave transmissions in order to complete national integration of TV networks, reaching the nation's remotest outposts.

Projects involving telegraphy, telex and data transmissions — the new national telex network will be largely expanded in order to comply with demand envisaged for the end of this decade. Telegraph services will be completely modified with the adoption of "Sicram," a system based on computers, with the new equipment installed in Rio de Janeiro, São Paulo, Brasília, Porto Alegre and Recife. In the field of data transmissions, the project calls for installation of facilities to service two thousand terminals, to begin with.

Below, at left, the micro-wave station of Belo Horizonte, State of Minas Gerais. And external and internal aspects of the terminal station of submarine cable, at Recife.



Life is a fascinating adventure, with or without Rhodia.

mpm-cb

Do you think a dress, even a glomorous one, can make a woman happy when the man she loves didn't show up? Rhodia thinks it can't.

Because no cream, no fabric, no nightgown that Rhodia helps manufacturing can make people more tender, more human.

Unfortunately, there is no firm in the world able to end disaffection.

For 55 years Rhodia has been manufacturing an infinity of products.

Some brands of quality are very well known. They identify synthetic and artificial fibers and threads: Tergal, Rhodianyl, Crylor, Rhodosá, Rhodianyl Helanca, Tercryl, Rhodalba and Dropgal.

And they give satisfaction and joy to many people.

Other lines, such as the cosmetic, were created to beautify women.

Rhodia knows that its contribution to the welfare of people is limited. It can only help.

For a company like Rhodia this is not enough. But it's worth.

RHODIA

Rhodia - Indústrias Químicas e Têxteis, Valisère, Rhodia Nordeste, Valisère Nordeste, Instituto Veterinário Rhodia Mérieux, Sociedade Comercial Rhodia e Clorogil.

POSTAL AND TELEGRAPH SERVICES COMPANY

CORREIOS
COLETA DE CARTAS

In the streets of the main urban centers, the public has at its service modern and efficients boxes to collect stamped letters.

POSTAL AND TELEGRAPH SERVICES COMPANY ● All Brazilians and many foreigners still remember the old Department of Posts and Telegraphs whose services, regrettably, had never reached a level of efficiency the nation expected from it. Dating back to the Second World War, the department's deficits, in every respect, began skyrocketting.

As a fine example of inefficiency and patronage, the old Department of Posts and Telegraphs was like an orphanage for public servants of extinct governmental agencies or departments. This was practically the rule of the day, until a few years ago. Until, that is, on March 20, 1969, the Government decided to establish the Postal and Telegraph Services Company, a semi-independent enterprise designed to reformulate and introduce methods commensurate with progress and development in every direction.

The old department's disorganization was such that the new company encountered employees without the least notion, nor qualifications, of the jobs they had been previously absorbed into. In those days, it was rather the rule than an exception to find former butchers, railroad men, garçons and every other species on the payrolls of the old department, rather than men and women trained in the exacting duties of postal and telegraph services.

The old department, guided and governed by non-professionals, and staffed by incompetents, was pretty close to a total collapse. The department's chronic deficit was reaching 80 per cent. In other words, the take-in covered but 20 per cent of the top-heavy, totally inefficient structure. With more than 60,000 employees, most of them incompetent and demoralized, it was practically impossible to reorganize the department.

In more recent years, with the take-over of the old department by the newly established Postal and Telegraph Services Company (ECT), the Brazilians, and foreigners residing in or visiting this country, began feeling and appreciating a new order of things in a field so vital to every community, to every individual, to trade and industry.

This new order, a concept of how posts and telegraphs should function, is becoming increasingly evident day by day, despite a host of problems still existing and to be overcome.

FOR the first time in centuries and recent decades, the Postal and Telegraph Services Company is fully aware of the service's vitally important role not only in a community's or an individual's dependence upon it, but of the overriding role and responsibility in the nation's march toward progress and development.

The Company keeps training its personnel; it has adapted electronic devices for sorting out mail; in collaboration with the Brazilian Air Force (CAN — Correio Aéreo Nacional) the Company has recently instituted overnight air mail service between all major cities of Brazil; telegrams, originating in Brazil or abroad, are being delivered at all hours of day and night; postal package service has progressed to a degree unimaginable a few short years ago. A miracle? Not at all. Only a dedicated, far-sighted policy and attitude in a critical field of communications.

A new era in postal and telegraph services has been ushered in Brazil. The administration of the Company knows how to balance its receipts and expenditures — and how to boost its receipts through a better service.

The new Company is not only aware of its duties and obligations of a "public utility" entity, but is fully awake to modern concepts of "marketing" which is bearing fruit.

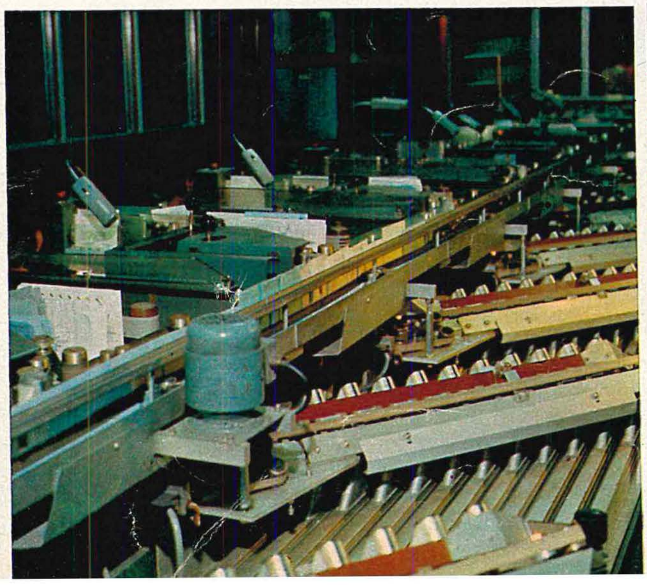
The efficient system of postal money orders and remittances is paying off dividends, both to the Company and the public and, most significantly, to the nation's remotest regions heretofore totally isolated. To expand and improve postal order and remittance service, the Company executives are ever ready to listen to businessmen, to learn, to adapt...

Despite all the work and improvements already achieved in modernizing Brazil's postal and telegraph services, the federal authorities know full well that there is much to be done and accomplished in the near future for all the problems, in this particular field, to be resolved once and for all.

Speaking about the near future, and measuring past failures and disappointments against recent successes, it may be wise to speak about the next 10 years, a period time during which Brazil's Posts and Telegraphs will have attained perfection.

Looking forward to that day when perfection will be the rule rather an exception, the Government is investing heavily in the development and specialized training of human resources.

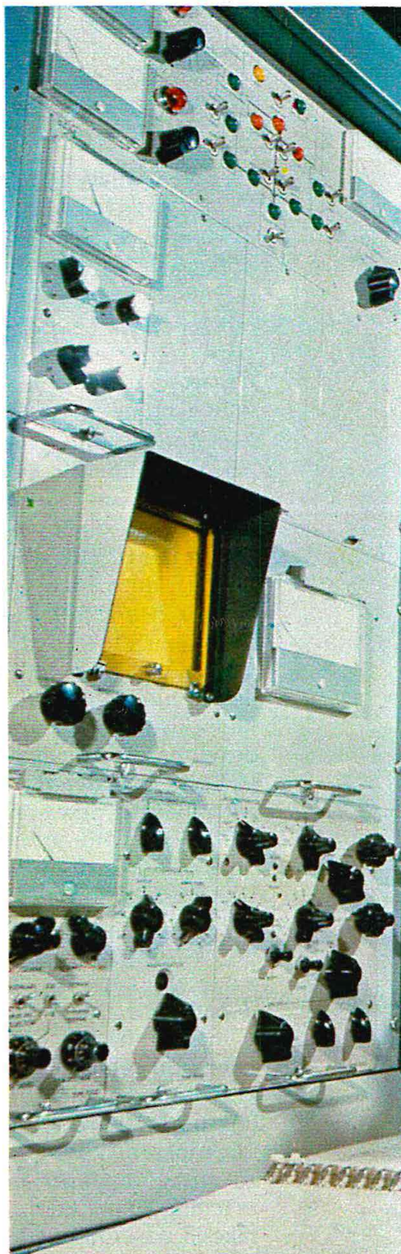
The Company's short history, distinguished by public appreciation for all the improvements introduced in recent years, is singularly outstanding in that its thousands of employees take pride in their jobs; they take pride in that specific sector which is most visibly capable to contributing to the nation's progress and steady development.



CORREIOS
ENCOMENDAS

At left, the electronic selection of correspondence. Above, the overnight air mail service. At right, one of the modern agencies of the Company, in São Paulo City.

SCIENCE A



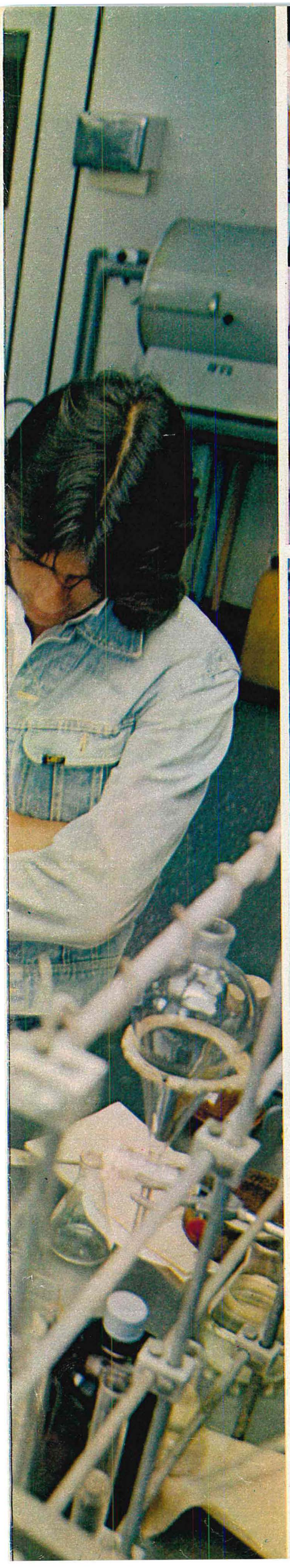
To meet the ever growing necessities
is slightly more than 3,000.

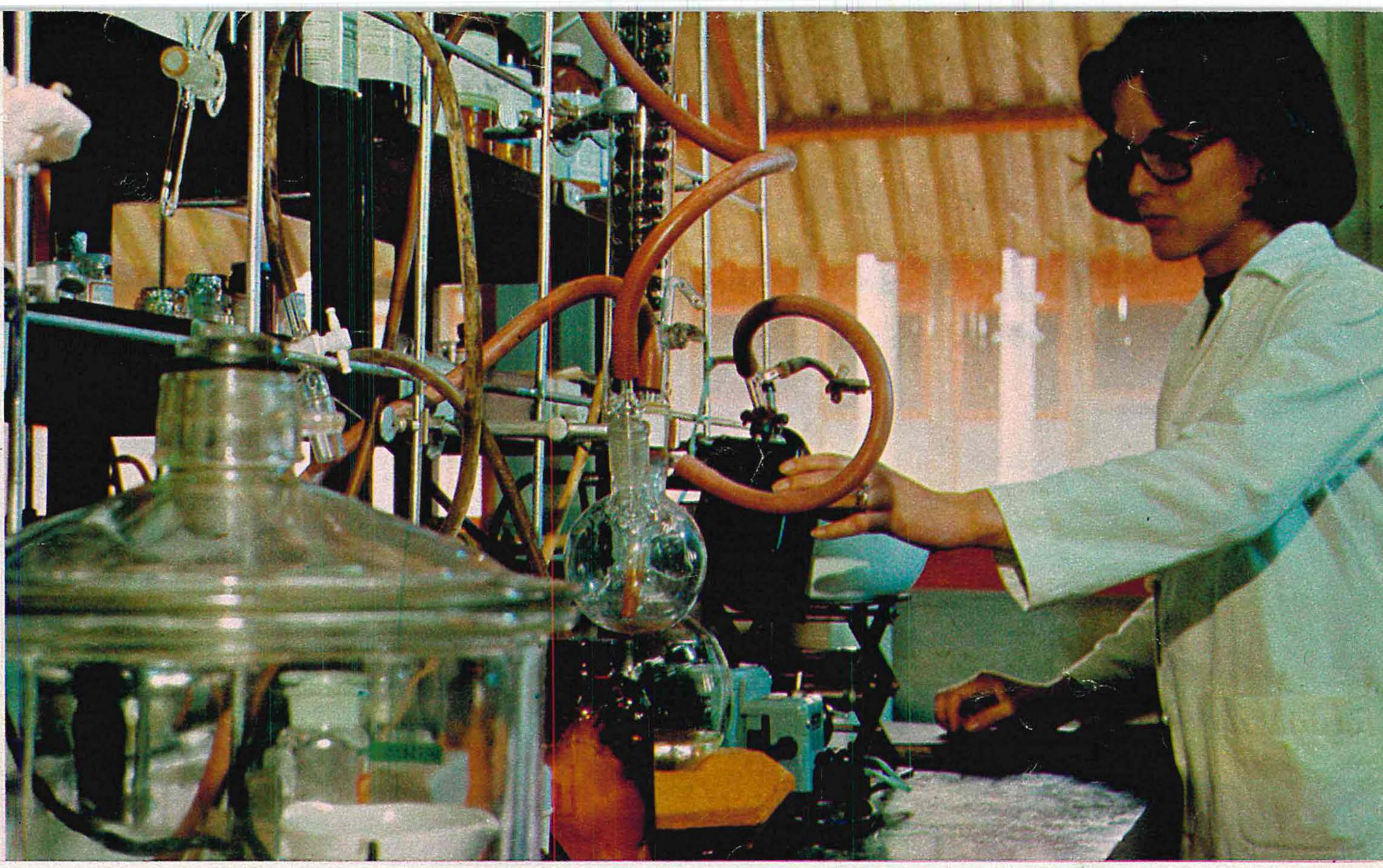
ND TECHNOLOGY

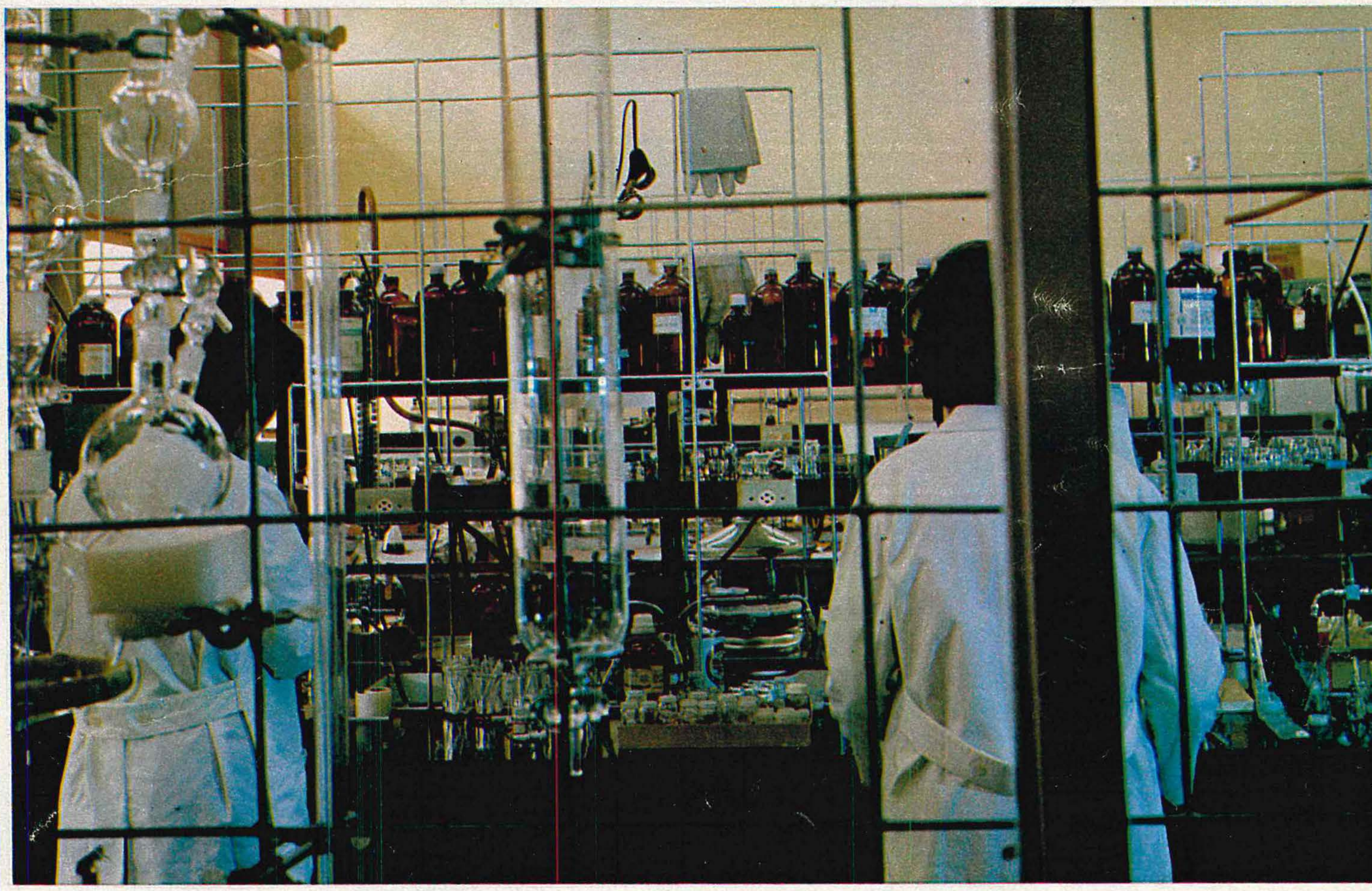
The Master-Switches

of development, Brazil will have to increase five-fold in the next few years the number of technicians and experts whose total number at present

The strategy contained in the Second National Development Plan views scientific and technological development, along with human resources, as essential in every respect, and not as something to a specific sector. Contemporary Brazilian society recognizes science and technology as powerful levers of progress and development. The availability of this force and its proper utilization with efficiency and priority, when called for, is benefiting every Brazilian. It is anticipated that technological development will have the same effect in the field of economics as electric energy expansion had in the nation's industrialization during the post-war years. The Government considers the function and application of modern technology as indispensable in the process of modernization, progress and development in favor of all — not, as in previous years, for the benefit of only a few.







The larger photo shows students at work in the Fundão Pharmacological Laboratory of the Federal University of Rio de Janeiro. The Second National Development Plan recommends a scientific and technological policy that will avoid misusage of the natural resources.

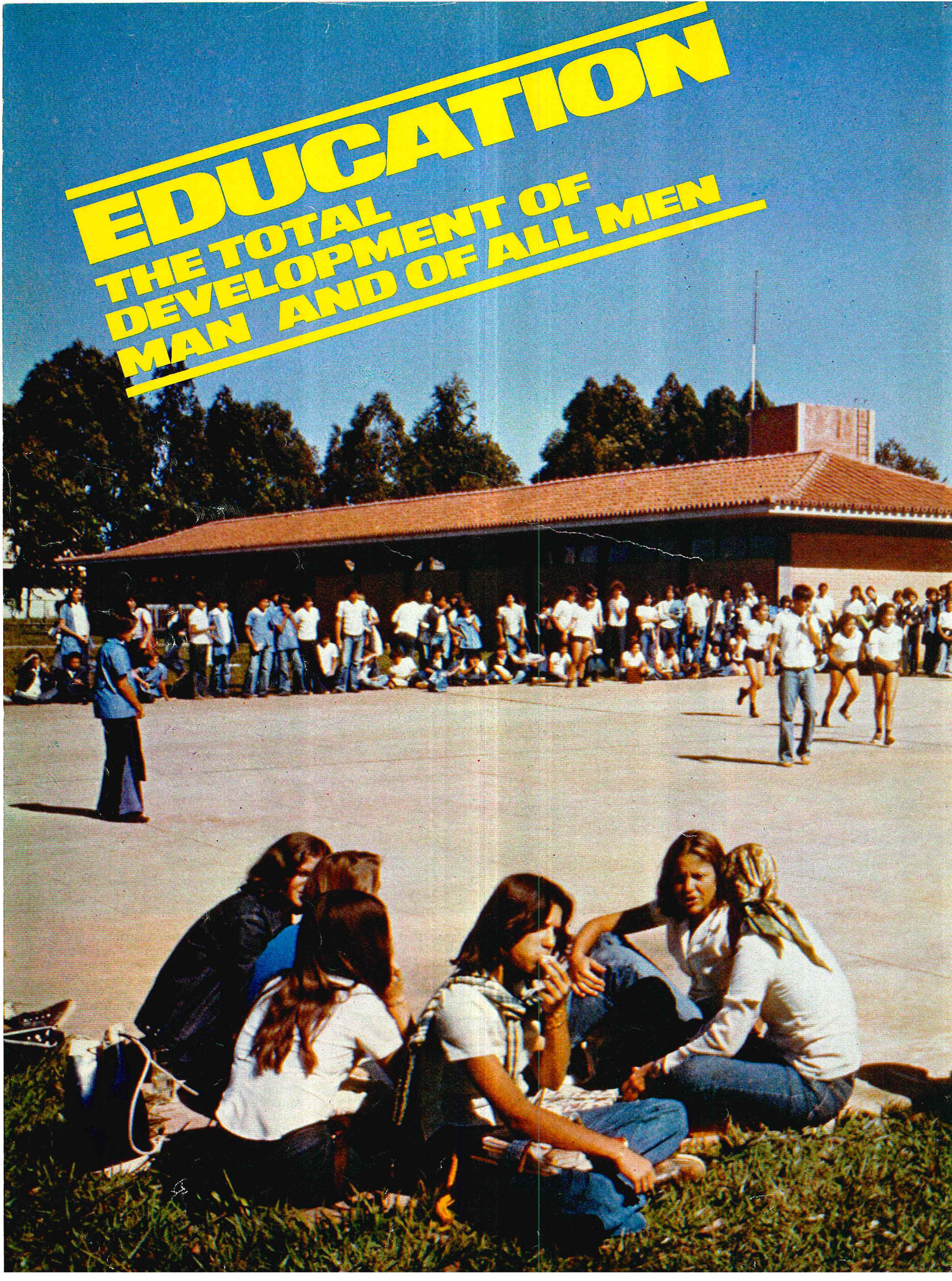
DEVELOPMENT OBJECTIVES TO BE GUARANTEED BY TECHNOLOGY

The presently prevailing international situation makes it imperative that Brazil should have ample access to and full use of modern technology in order to guarantee uninterrupted development of its internal potential forces. Pursuant to the Second National Development Plan, science and technology, in amplified dimensions, must be relied upon for the attainment of development objectives, including social and human goals, as a guarantee toward a better life and social order, as well as in defense of natural resources. In this respect, certain specific aspects must be spotlighted: a proper balance between basic research, applied research and development — as stepping stones in a comprehensive program of socio-economic progress. Without this balance, certain distortions will become inevitable. For instance, too much emphasis on basic research may well prejudice overall scientific development rhythm. Too much attention to technology may cause gaps in social development. The major impact in the technological area, at this time in Brazil, must reach the largest possible segments, always having in mind results already achieved in the developed nations, i.e. the transfer and/or import of technology.

In certain areas — such as that of Embraer — it is certainly possible to evolve our own technology, even though this may be a most complex area.

EDUCATION

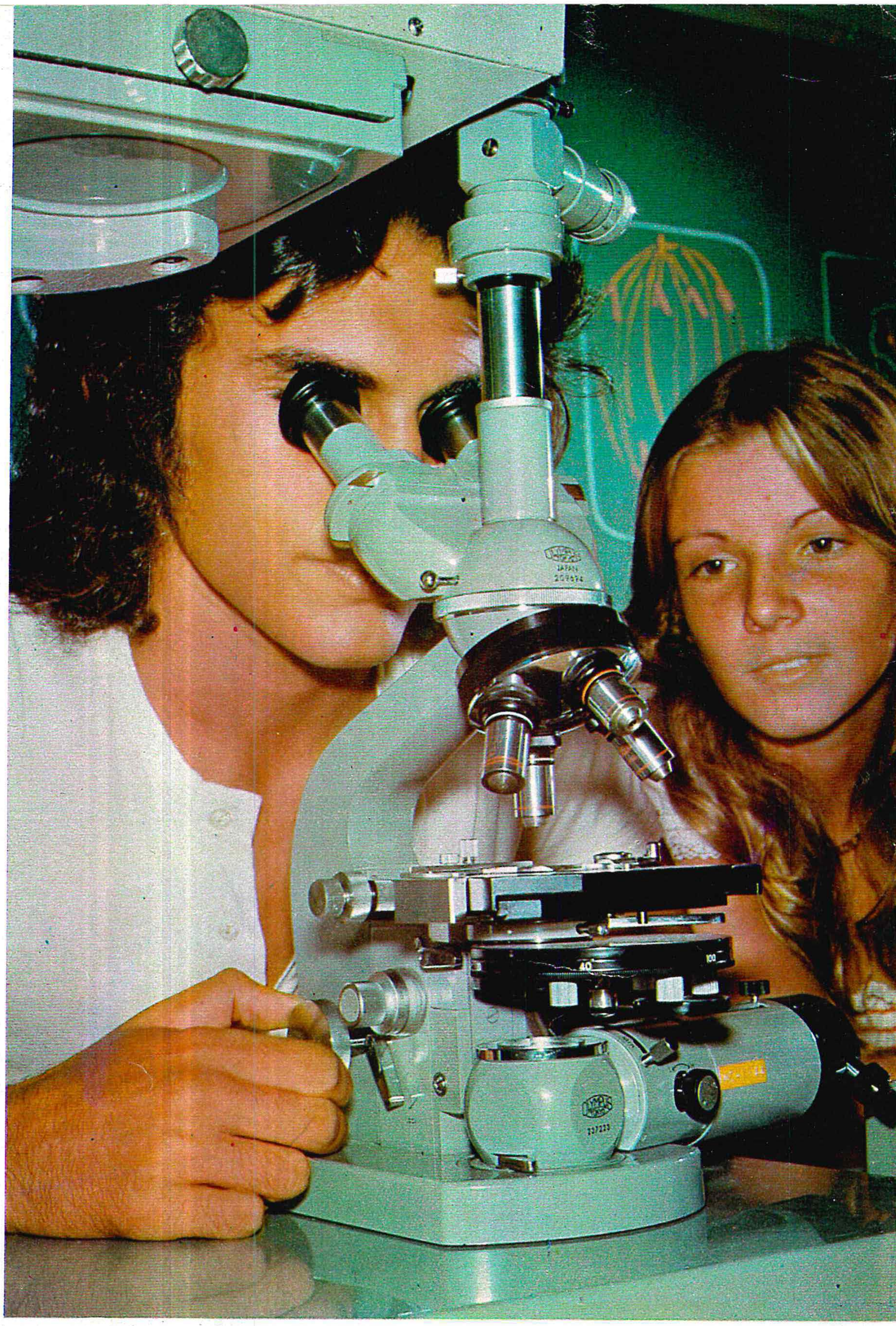
THE TOTAL DEVELOPMENT OF MAN AND OF ALL MEN



The Second National Development Plan underscores, in its chapter on education, the upgrading of scientific and technical instruction at various educational levels, as well as vastly stepped up post-graduate programs. Following these guidelines, the Brazilian educational system will seek a closer relationship between educational policy and national development efforts, assigning to education a more efficient task of forming professionals capable of responsibilities in the many fields of national development.

THE new prospects and realizations, based on the firm understanding that education and culture are within the province of every human being, ensure the right of every person to participate in the nation's march to progress and greatness. And, starting from this premise, it is reasonable to anticipate educational and cultural changes that will result in total development of Man in multiple dimensions. On the other hand, an educated person, envisaged by the Plan, will amply justify the aspirations of the Government and the Ministry of Education and Culture in a drive for socio-economic integration. In furtherance of the program, the Ministry is developing and realizing a series of projects, both educational and cultural, which will reflect the profoundest meaning of "integrated development of the total Man and all men" — words of Pope Paul VI — "is not the ultimate object of valorization but of humanization."

Primary and secondary education facilities are being expanded in accordance with overall and more realistic planning

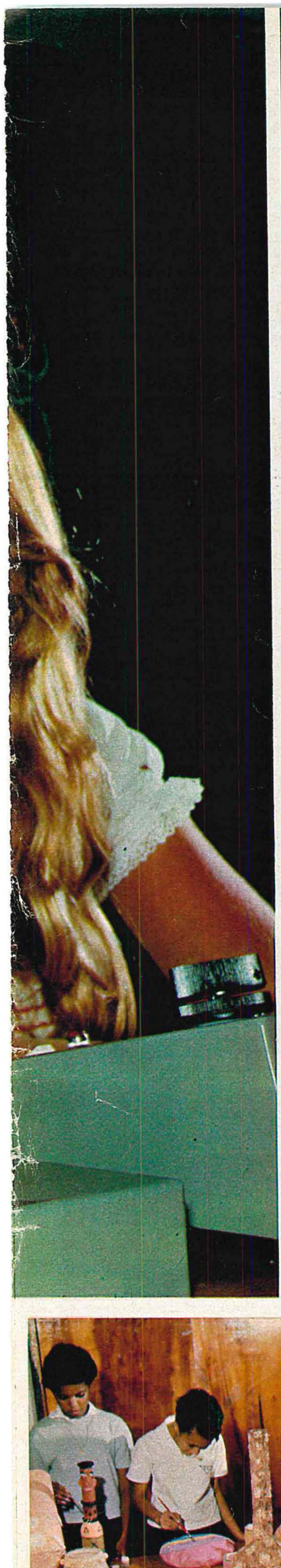


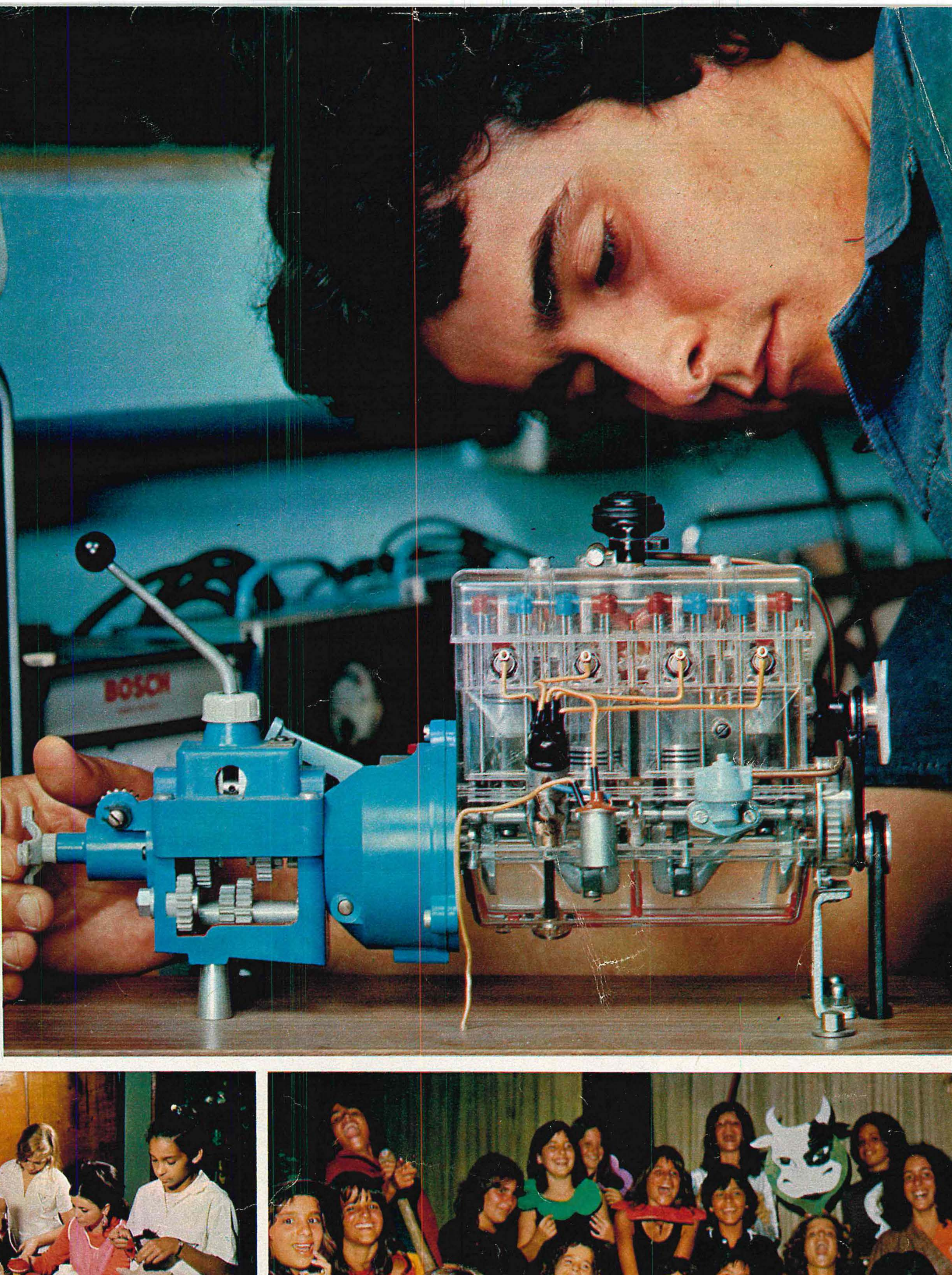
PRIMARY EDUCATION

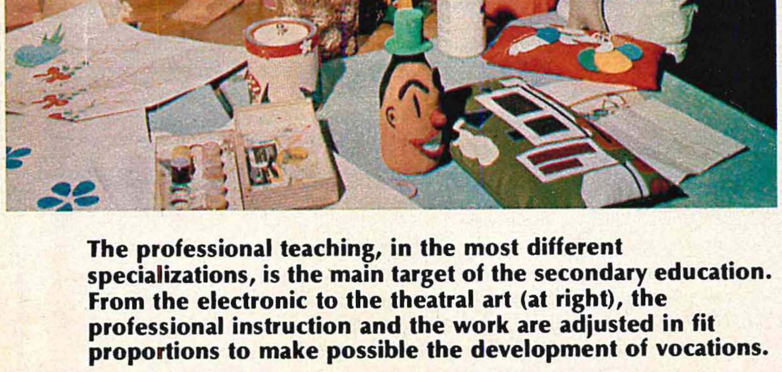
The main objective is to create conditions and facilities for a growing number of pupils aged 7 to 14, with equal opportunities for all but not forgetting individual characteristics or special ability. In 1974 vacancies in primary education existed for 18.2 million candidates. In 1979, in accordance with the Second National Development Plan, 23 million pupils will be in primary schools. Accordingly, an increased number of teachers will have to be trained annually. During the next five years 178,500 will be newly trained and/or upgraded. At the same time, 11,800 primary school administrators will have attended special courses. Public funds will be largely used in the vast expansion and improvement programs in rural areas and within economically less privileged states. Schooling, first through fourth grade, in rural regions will be modified, particularly in respect of grade-age considerations. Plans are being formulated to reorganize school planning with special attention to be paid to brighter, more gifted pupils. The outlook becomes even more favorable, considering the number of new and better schools to be built and equipped, technical and medical assistance to be made available and text books and other school material to be distributed free to the needy. School lunch programs, which have played such an important role in the past, will not only be maintained but greatly expanded.

SECONDARY EDUCATION

Distinguished principally as a stepping stone to employment, secondary education (fifth through eighth grades), secondary education during the next five years will be greatly expanded and improved to meet the demand which has been constantly growing. In 1974 there were 1.7 million vacancies; by 1979 two and a half million teenagers will be able to partake of secondary education. During the period covered by the Plan, teachers and administrators, totalling 68,300, will undergo special training. One of the objectives of secondary education expansion and improvement is to provide better and more agricultural technicians. In the process of attaining secondary education objectives, a gradual but steady expansion of existing facilities and construction of new units has been laid down in the Plan.

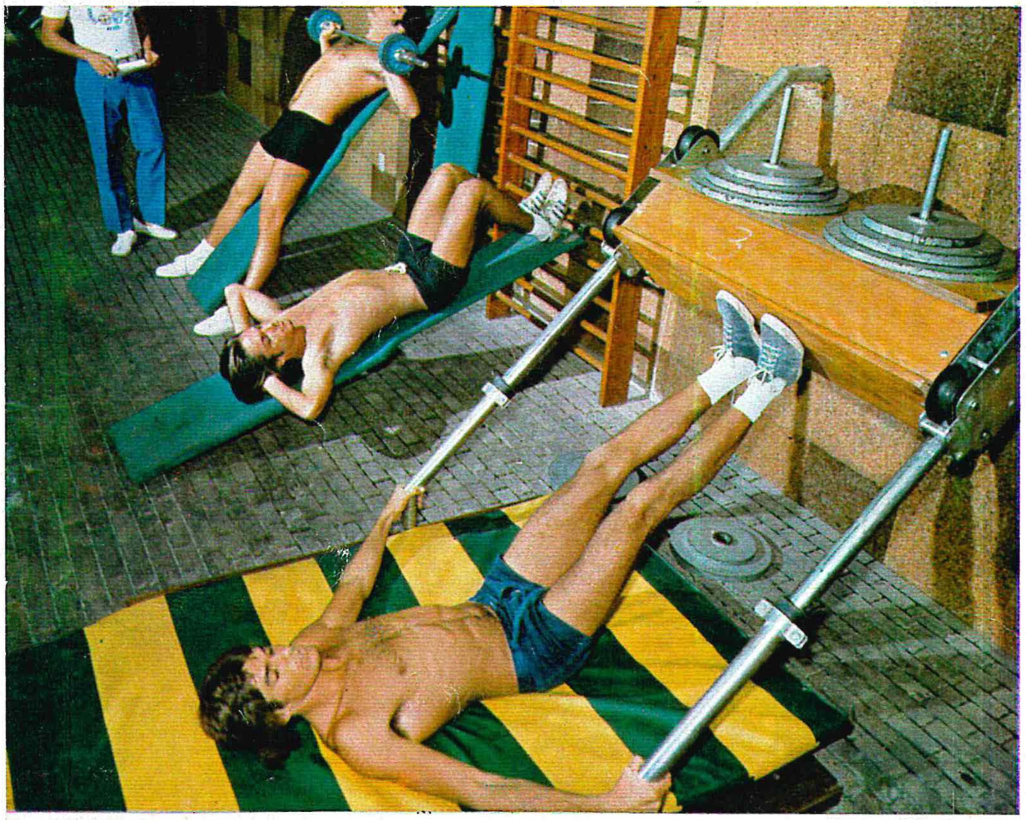






The professional teaching, in the most different specializations, is the main target of the secondary education. From the electronic to the theatral art (at right), the professional instruction and the work are adjusted in fit proportions to make possible the development of vocations.

At same time with the universalization and the improvement of all levels of education, sports and physical exercises receive the best support



Since the primary till the universitary education, the improvement of the physical education has the strongest emphasis in the programs of the Ministry of Education and Culture. By other side, the Mobral, between 1975 and 1979, will teach to read and write near of 8 millions and 800 thousands brazilians.

PHYSICAL EDUCATION

The Ministry of Education and Culture is placing the strongest possible emphasis on the importance of physical education, beginning with primary grades and continuing thereafter. The Ministry is encouraging all forms of sports, offering promising sportsmen conditions that have placed on innumerable occasions their names on the international scene.

SUPPLEMENTARY EDUCATION

Essentially designed toward the adolescents

and grown-ups who had missed their opportunity, or for some reason were unable to partake of even the primary education in their younger years, the Brazilian Illiteracy Eradication Movement — MOBRAL — which is part of supplementary education, will enable 8.8 million people to read and write during the next five years.

Integrated educational programs, designed to attend to those who had only recently learned to read and write, MOBRAL including, receive the Ministry's total assistance. Educational Radio and TV programs furthermore contribute to this form of education and assistance and are considered by the authorities as being fundamental in the overall effort. Supplementary education consists also of studies and research which permit the adaptation of methods to further education-with-apprenticeship concepts. Experimental work is currently being carried out with primary and secondary education teachers, to transform them into the most useful educational communications media, via Radio and TV.

SPECIAL EDUCATION

This is one of areas which has merited the Ministry's special attention. It concerns children, even grown-ups, with physical and mental deficiencies: the deaf and mute, those with impaired vision or totally blind, and the mentally retarded.

To ensure that these people should not remain entirely beyond and outside education, various methods and courses had been adopted, conforming to individual cases and requirements. Thus, the deficient or afflicted can count on receiving general as well as specialized training.

Technical and financial assistance to private institutions engaged in this activity, and governmental participation in and integration with private initiative is paying off dividends. By 1979 private and governmental activity in this field should reach maximum results.

The Oswaldo Cruz Institute, at Rio de Janeiro (above,
within a few days in so vast territory — was an unprece

THE PUBLIC HEALTH MINISTRY

Its highly efficient and diverse role is felt throughout Brazil, from metropolitan areas to the jungles of Amazônia and beyond.

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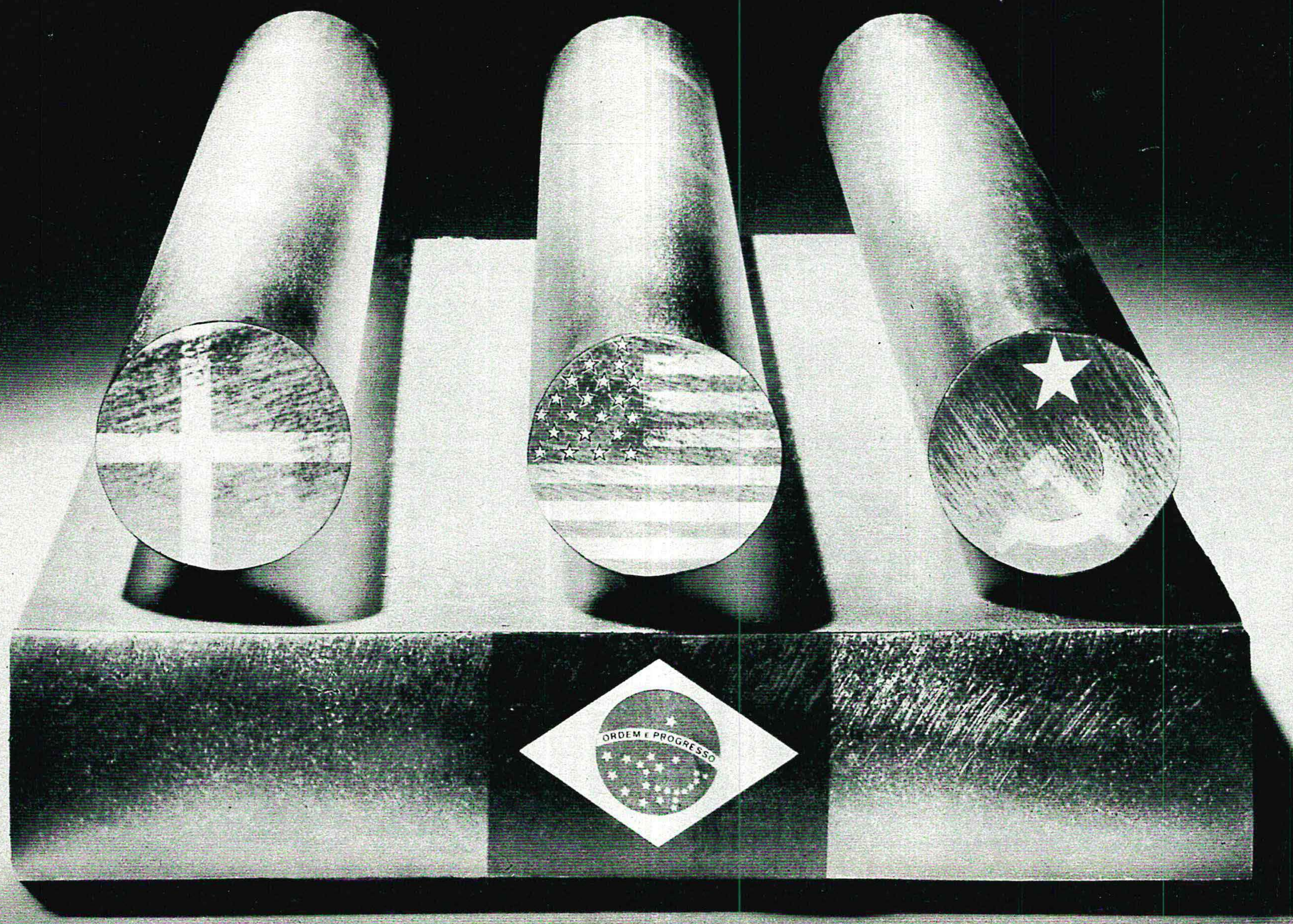

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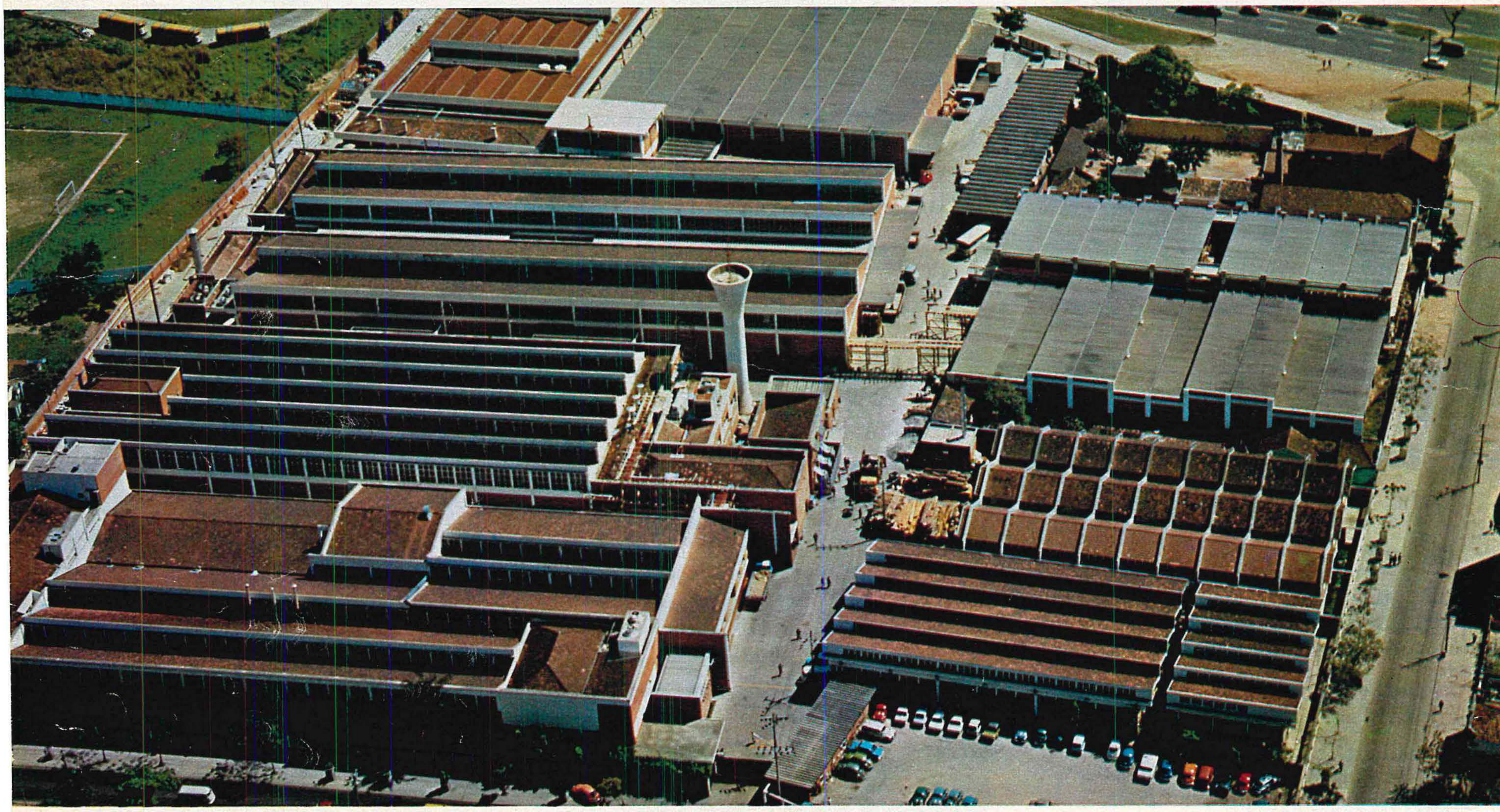

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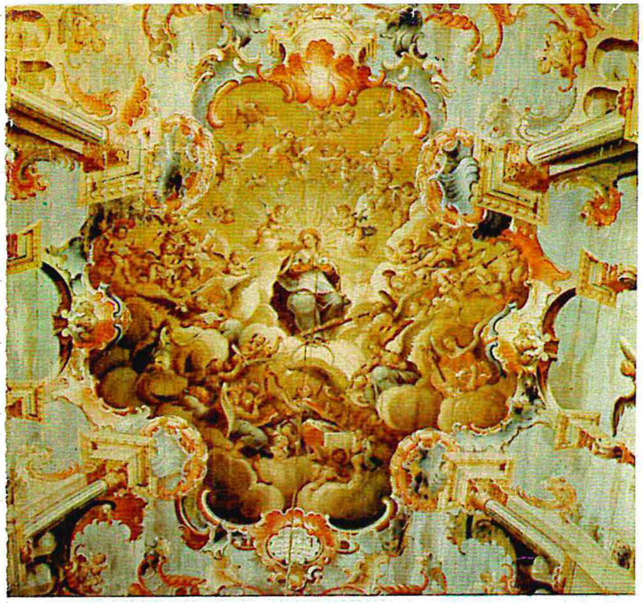


architecture of the past times, like the Santo Antônio mother-church, in the old city of Tiradentes.

ensuring that modern trends receive their full share through communications media.

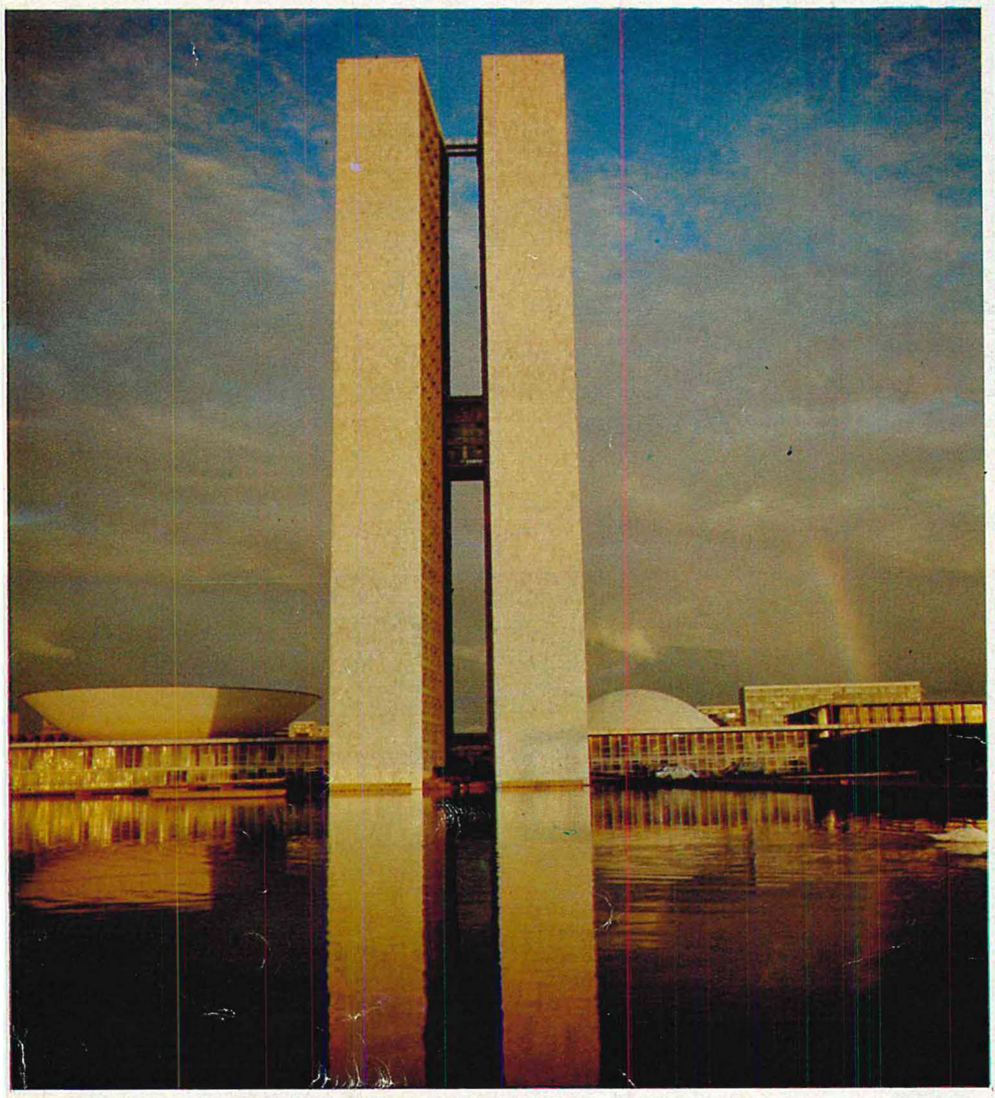
NATIONAL MONUMENTS

The preservation and safeguarding of sites and monuments that represent — and are symbols — of national history and heritage, are of grave concern to the Ministry of Education and Culture. Considerable budgetary allotments have been destined toward the praiseworthy cause.
To safeguard and protect this vast national treasure, spread over an enormous area, the Ministry pinpoints every site, every monument, every single item considered of historical value, spending, in the process, generously. Far from being transformed into ghost cities, the really historical sites and cities live their normal lives, accentuated and enriched by the tourist traffic.

ARCHITECTURE

Every Brazilian is a potential architect, which is pretty close to truth and reality. The preference in modern architecture is toward clean lines, functional service of every stroke on the design board. This has been dear to the heart and mind of Brazilian architects for some time past. Essentially, every Brazilian is an addict to clean, functional construction. Teaching and training its future architects and urban planners, it seems that every university in Brazil is bent on impressing its architecture students with but one idea: perfection of line, utilizing space at its maxium.

Architecture of the past and of the present, folklore festivals, music of the National Symphony Orchestra — the soul of a people



Every brazilian is an addict to the modern architecture and the photographies above at left and below at right are good examples of that, in contrast with

LITERATURE

In addition to other artistic forms and expressions, Brazilian literature finds a fertile field. Here again, the Ministry's incentives can neither be disregarded or underestimated. The Ministry's policy of co-publishing of the principal literary works is a real boom to our principal authors.

Contests in prose writing, poetry and essays, sponsored by the Ministry and private sources, serve to encourage literary movement or writing habits all over Brazil, some resulting in the discovery of new talent, others giving additional impetus to already well known authors.

Contests in prose writing, poetry and essays, sponsored by the Ministry and private sources, serve to encourage literatry movement or writing habits all over Brazil, some resulting in the discovery of new talent, others giving additional impetus to already well known authors.

FOLKLORE

The Brazilian folklore is one of the richest in the world in terms of style varieties, presentation and of sound and colorfulness. A genuine expression of the soul of the people of Brazil, the Brazilian folklore has, meritoriously, received the wholehearted support of the Ministry ot Education and Culture. This support is directed toward dissemination of the ancient arts, habits and customs, and, principally, to preservation of national folklore through documentary films and exhibits.

In conformity with the Ministry's policy toward national folklore, a number of new projects have already been elaborated and put into practice. Among these: the presentation of regional dances and dance rituals, accompanied by voice and documentary explanations; the sponsorship of itinerary singing groups, recitements and accompanying commentaries; mounting of folklore stands from state to state and city to city, to acquaint urban centers with the folkloric heritage of the past and the vast interior regions of Brazil.

RADIO

This instrument of popular communication has been accepted by the Brazilians **en masse.** It now belongs inseparably to national everyday life, to national culture and habits, to the new way of life.

One of the grand official radio programs — "Minerva" — under the auspices of the Ministry of Education and Culture, is a popular education program with millions of listeners.

Radio Ministry of Education and Culture is dedicated exclusively to educational and cultural programs, transmitting classical music, with emphasis on international as well as national composers.

THE CINEMA

In the field of cinematographic activity, the Brazilian cultural policy envisages various projects, some of which are already being executed, others on final stages of planning. In addition to fiscal incentives for the filming of some of our outstanding literary works, the Government, through the Ministry of Education and Culture, has determined the production of a series of documentaries of our past and present and world-wide events for presentation through national networks. Short and full-length films are to be produced, concerned with our historic sites; musicals and films concerned with our plastic arts, architecture and folkloric aspects, films about our museums and art collections, private and official, are to follow in short order.

These documentaries will depict outstanding cultural aspects of the Union, with particular emphasis on human values, in national and international sense and appraisal.

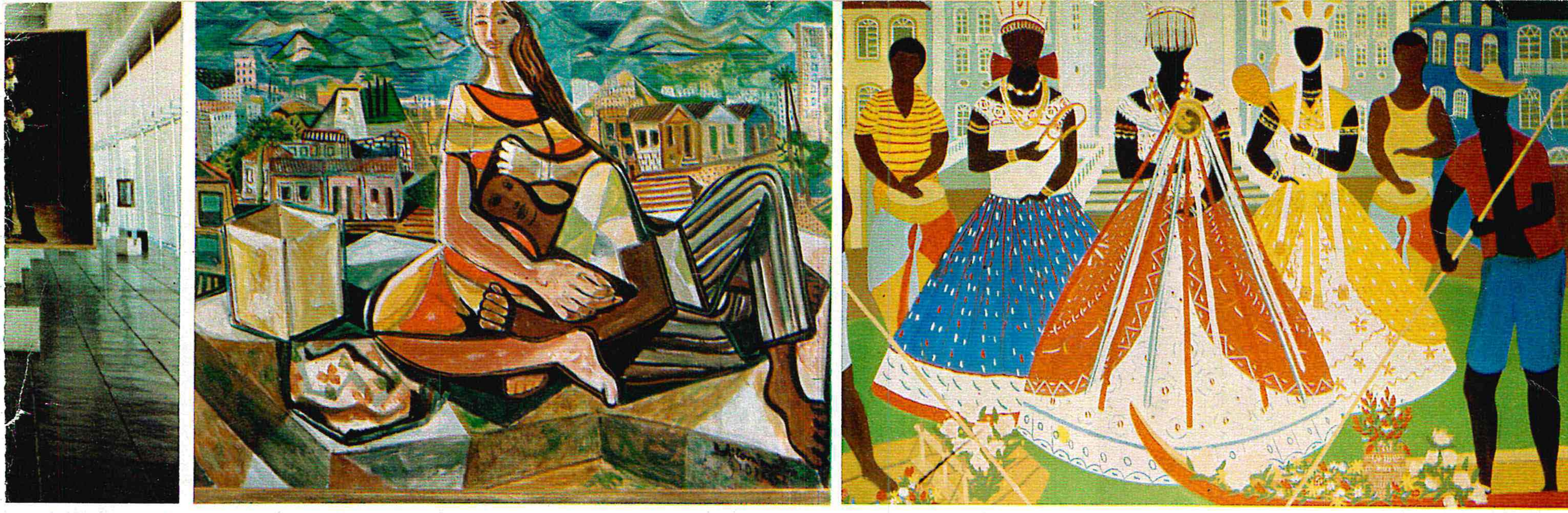
MUSIC

Music is the one field in which the Brazilian taste for art has had the greatest development, with a style variety that defies numbers or comment.

Principally stimulated by the Ministry of Education and Culture, classical music is presently sweeping all regions of Brazil, with recitals and performances of the National Symphony Orchestra in public plazas and popular theaters.

Lyric companies, festivals, string quartets, musical bands and choral festivals dot the Ministry's musical programs throughout the nation.

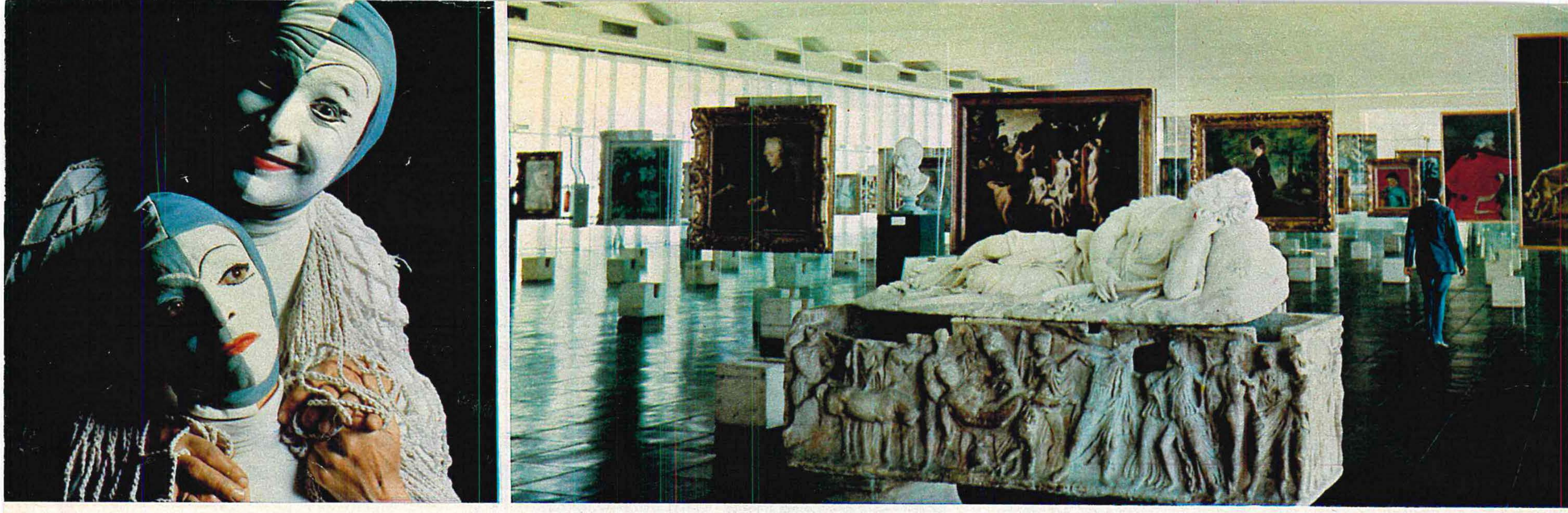
Simultaneously, contemporary popular Brazilian music has been receiving the Ministry's incentives and fiscal assistance,



cultural politic of the Ministry. In all sectors new vocations can be developed and, at same time, traditions can be preserved.

creates favorable conditions
cultural treasures and the development of arts

Modern and sophisticated spectacle houses give to the public plays of best quality, like the Theater Adolpho Bloch, with Pippin.



Education through the theatral art, the plastic arts, the museums and all sort of criative manifestations, play an important part in th

With the cultural action program, the Ministry of Education and Culture for the preservation of the nation's

Three basic principles guide the Ministry's cultural policy: incentives for Brazil's artistic creations, preservation and protection of Brazil's art treasures, and ample presentation, through TV and exhibits, of all cultural manifestations of the nation.
The official attitude is characterized by diversification in presenting Brazilian art which, over a period of years, succeeded in giving Brazil a singularly unique position, a typically Brazilian aspect, as compared with other peoples and cultures.

Having created the Cultural Action Program, the Ministry had assumed the responsibility of effectively participating in the process of Brazilian cultural development, simultaneously ensuring that the artistic values of the country will be safeguarded and new trends fortified and encouraged.

THE PLASTICS ARTS

The plastic arts represent one of the oldest Brazilian traditions, a tradition which dates back to the 18th century and the arrival in Brazil of the first French plastic arts mission. From that time on and till the present day, Brazilian paintings, sculpture and design have attained, qualitatively, international levels, with a number of Brazilian artists acquiring world renown whose works have merited exhibits world-wide.

Brazil's vigorous and many-faceted artistic production is reaching out in every direction: in the plastic arts per se, superficial expression, volume and movement.

Design methods and every other type of art become familiar to the Brazilians from an early age which makes it possible for every child or a teenager to discover his or her own inclination, discoveries, which later may result in yet another famous name in a vast constellation of Brazilian plastic arts and artists.

TELEVISION

With a little more than a twenty-year experience, Brazil's television networks have already achieved, in areas of education and culture and as an information media, levels on par with much more developed nations.
Brazil's Educational TV had obtained an unusual success with the launching of a novel called "João da Silva", which recounts the story of a student recently arrived in a big city from the North-East — to study. The novel, essentially educational in character, is narrated, as it passes on TV screens, in most humane terms.

"João da Silva", which had received first prize from the grand jury in Tokyo during a contest of the world's best educational TV presentations, is being projected in every state of Brazil, having completed the circuits commanded by Rio de Janeiro and São Paulo TV stations.

THE THEATER

Never before has the Brazilian stage been so active. The Brazilian theater may well be experiencing an era of rejuvenation, a re-birth. The staging of an average of 20 new plays per month and the always bigger audiences are proof positive of public acclaim and the desire to pay homage to native Brazilian companies.

Professional groups and amateurs, subsidized by the Ministry of Education and Culture, bring the Brazilian theater to all Brazilian states and territories, including the traditional theater and the modern, stage presentations for the young and the adults, as well as national and international plays.

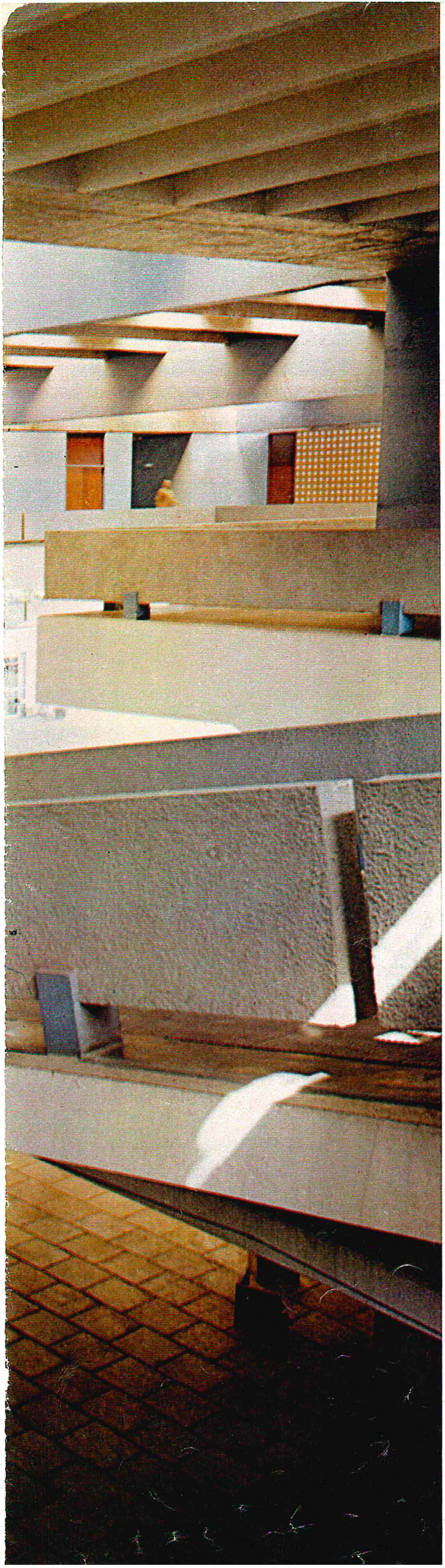
MUSEUMS

Above all else, the Brazilian museums, following trends at present prevailing throughout the world, are gradually loosing their immobility, their static presence in metropolitan areas, and are becoming traveling attractions for the general public.

Provided with new equipment and modern means of preserving and safeguarding the nation's most valued historical and cultural treasures in various Brazilian cities, our museums recount and demonstrate the nation's history in its most poignant moments, in time of war and peace. Our museums are the true guardians of our history.

The greatest names in the world of art can be appreciated, as their works are exhibited in the principal museums of Brazil. These exhibits are educational, fundamentally and for being there.
From the time when our national museums began moving, adopting a policy of itinerary shows, the public of interior states and regions was given a real opportunity to appreciate national and international art and, more specifically, the vast artistic treasure of our museums. "Museums-on-the Road" is not a fad, it's a measure of acquainting our populace, even in the most isolated areas, with art, culture and our historic heritage.

The theatral art is having now a real new born period in Brazi



An aerial view of the Federal University of the State of Rio de Janeiro, at Fundão Island.

University campuses throughout Brazil are being steadily modernized and provided with most sophisticated equipment

HIGHER EDUCATION

Technical fields, such the legal profession, teaching, health sciences and agriculture, already constituted priorities in 1974. Henceforth, new methods shall be introduced in higher education. These will include new curriculae in post-graduate work, to conform with scientific requirements, technology and culture in a fast developing country such as Brazil. An ample program for the utilization of human resources, through specialized courses and training will be implemented under the Second National Development Plan. As in other areas of education, higher education, at university levels, will require the upgrading of faculty members, totalling 11,700 professors.

The Second National Development Plan envisages planned expansion in the area of higher education. By 1979, university attendance will reach 1,700,000 students. Post-graduate courses will command the Government's and Ministry's special attention, to ensure that the nation's development efforts should be properly aided and governed by highly trained specialists. Short-term graduate courses are being instituted for technicians in specialized areas. These short-term graduate training courses are distinguished by their flexibility, in conformity with the country's technological and economic requirements.

THE NATIONAL PLAN FOR POST-GRADUATE STUDIES

The Ministry of Education and Culture, through the National Council of Post-Graduate Studies, has elaborated a plan for post-graduate studies. Based on the recommendations and guidelines of this plan, the Ministry will, accordingly, adopt measures to coordinate, plan and execute the newly formulated post-graduate activities. This will apply to all institutions of higher learning throughout Brazil.

The plan covers the period of 1975-'79 and envisages specialized training for 16,000 M.S. and 1,400 Ph.D. candidates who are expected to reinforce higher education needs in general and research requirements in particular. Moreover, about 3,500 candidates will be sent abroad, on scholarships, mostly for specialized post-graduate work at Ph.D. levels.

During this period, the Ministry of Education and Culture will promote a drive, through the majority of Brazilian universities, aimed at a larger number of professors and assistant professors — 12,000 at least — in all scientific and educational areas to reinforce educational programs and the potential of educational institutions.

The plan does not diferentiate, nor allots priority, between any specific educational area. The Ministry's aim is to upgrade the educational system.

The following guidelines are considered essential:

1 — To institutionalize the system and consolidate it with regular activities of the universities with ample fiscal supports.

2 — To upgrade present levels and improve the utilization of human resources toward greater productivity.

3 — To continue planning for the expansion of a balanced educational structure within certain regions of Brazil with view to justifying the investments and upgrading cultural and scientific values.

At left, in the greatest photo, internal aspect of one of the schools of the University of São Paulo. Above, a detail of the University of Brasília and a student training to the use of computers.

eft) is one of the more important medical research centers of Brazil. The vaccination against meningitis — immunizing millions of people lented performance in the world's public health services. Below, the Ministry with his staff.

DURING the last 10 years, the Public Health Ministry has been chalking up sucessive accomplishments in the Nation's most important drive toward progress and development. However, the Ministry's exceptional achievements can be traced to the very beginning of this century.

At the turn of the century, Dr. Oswaldo Cruz, whose name and professional dedication perpetuates in Instituto Oswaldo Cruz, named after him, had launched a massive campaign against yellow fever and thus liberated Rio de Janeiro of the ill-fame as the most epidemically ridden city. He also campaigned and won — against the plague and smallpox epidemics. In his relentless battles he also found time dedicated to experimental medicine which led to the establishment of the Manguinhos Institute (now the Oswaldo Cruz Institute on Avenida Brasil), the cornerstone of Brazilian medical research. Simultaneously, in São Paulo, a medical team, led by Drs. Emilio Ribas and Vital Brasil, emerged to combat the plague.

In this our present decade, the paramount accomplishments in the field of public health included total eradication of smallpox and substantial advances in the total elimination of yellow fever within the urban areas. However, these maladies seem to have invaded anew northern Brazil. But malaria is definitely on the decline throughout Brazil.

In northeastern Brazil, the most notable index has been registered in recent years in the reduction of malaria and infantile deaths.

Presently, however, the Brazilian public health exposé can only be described as "quite diverse" As urban population keeps growing, and the federal and state public health services are kept busy keeping city dwellers healthy and immune from epidemics, the Government must concern itself with public health problems in newly "re-discovered" immense regions (Trans-Amazônica, for example) and health conditions there. The public health authorities are actually facing multiple and complex problems, including tropical diseases, medical aid to rural populations and health problems existing in such large metropolitan areas as São Paulo, Rio de Janeiro, Recife and Porto Alegre, among others.

THE Ministry is modernizing methods and approaches to public health

THE Ministry of Public Health is mobilizing all the resources at its command to attend a population in excess of 100 million spread over 8.5 million square kilometers. To cope with some of the world's most complex problems, health-wise, the Federal Government has determined three specific fronts of action:

1 — The Ministry of Public Health must define national policy in respect of public health. The Ministry is the nation's guardian against epidemics and transmittable diseases; the Ministry originates basic and applied research, and, finally, it is the one authority to determine control measures of foods and medicines.

2 — The Ministry of Social Security must render medical assistance in the field of recuperation and rehabilitation to every individual subject to social security benefits, including clinical assistance as well as hospitalization.

3 — The Ministry of the Interior is charged with the responsibility of providing adequate sanitary conditions, including sewerage facilities and home hygiene.

At the time of this writing, legislation is being considered by the National Congress in Brasília to charge the National Development Council, which is the supreme organ in matters of coordinating and financing the National Health System, with the additional responsibility of initiating and supervising priority programs in every sector of the National Health Plan. In addition to the three ministries already mentioned, the Ministries of Labor and Education are expected to participate in the gigantic national health drive.

The Ministry of Public Health is constantly faced with major problems to be solved throughout the national territory. It is constantly modernizing its methods and approaches to public health. Transferable diseases, such as meningitis, have recently mobilized the Ministry's total resources and what may have developed into an epidemic was brought under control by the use and application of formidable human resources and monetary expenditure.

The vaccination against meningitis of São Paulo's multi-million population, for instance, was concluded in five days, as well as in Rio de Janeiro and some coastal regions affected by the disease. The task required 1,300 technicians to apply vaccination; 600 vaccination air guns (Ped-O—Jet) and 500 vehicles, as well as refrigerator trucks and vans and even helicopters, in addition to planning personnel, supervisors and auxiliary forces. The Ministry prides itself on the smooth accomplishment of so huge a task — immunizing millions of people within a few days in so vast a territory — an unprecedented perfomance in the world's public health services.

The vaccination campaign proceeds at a less hectic pace in most urban centers, with priority given to cities astride the nation's principal highways. By the end of May, 1975, more than 40 million people had already been vaccinated, and by next September the number will reach 80 million!

The other transmittible disease, smallpox, the last case of which was registered on April 19, 1971, was another occasion on which the Ministry had acquitted itself with flying colors, having mobilized and organized its total facilities in record time. The eradication of smallpox throughout the huge territory of Brazil was hailed as a feat by the World Health Organization and the Pan-American Health Organization which, at the time, had collaborated with the Brazilian public health authorities.

As to malaria eradication, the results achieved during the last 10 years have been truly significant. Brazil's malarious areas, which formerly affected 42 million inhabitants, will this year produce no more than 8 million cases — or much less — depending on the findings and official pronouncements of World Health Organization and Pan-American Health Organization experts shortly to visit Brazil's northeastern regions. They expected to declare the North-East as a "non-transmittible" region, or where malaria has been put under control. In the Amazon area, where formerly 50 per cent of the population had suffered from malaria, presently no more than 10 per cent may still be affected.

Most notable results have been likewise achieved with the eradication of "Aedes Aegipti", urban carrier of yellow fever. To ensure that the spread of the disease will not again occur, as happened in Pará and Maranhão in 1967, the Brazilian health authorities had investigated, till 1974, 2,396 localities in 213 counties, having inspected 6.5 million buildings and applied preventive spraying to a million and a half of possible sources.

SIMULTANEOUSLY, 512,643 transportation units were treated, including aircraft, river craft and land vehicles, and 57 million water reservoires were inspected. The campaign, acclaimed by world health authorities, resulted in a major victory in an area greater than several nations put together, affecting a population likewise larger than the total number of inhabitants of some countries — at a cost of only a million dollars!

The Anti-Schistosomiasis Campaign calls for special attention in areas of big dams. In irrigated areas of the North-East, the Ministry of Health, with full collaboration with local health agencies, has instituted a three-way approach: vigilance over outbreaks of epidemic proportions and corporal surveillance of local residents; special treatment of reservoires, channels, and water pools and public education as to the disease, its efects and prevention; sanitary precaution, providing all domiciles with sanitary facilities.

Epidemiological Vigilance: Information system — Decision — Control, exercized by public health authorities under the Ministry of Public Health directives and guidelines, will not only control transmittible diseases, subject to International Health Regulations, such as cholera, yellow fever, the plague and smallpox, but avoidable diseases either through vaccination or other measures decreed by medical authorities. On the other hand, due to the Ministry's control powers, the industrial utilization of human blood is being disciplined and the "blood banks" strictly controlled, in order to prevent transmission of disease from an unhealthy donor.

THE Health Program for Amazônia, with participation of the Ministry of Public Health, the Ministry of the Interior and the Ministry of Social Security, is aimed, among other things, at modernization of administration of the National Health System in that enormous region: training and adequate preparation of human resources; control over and eradication of transmittible diseases; sanitary and medical assistance; installation of sanitary facilities in rural areas recently populated through resettlement and immigration. The estimated cost of this program, for the 1974-'79 period, will be about US$465,406,780.00.

During the same period — the next five years — investments in 20 Health Programs in the North-East will reach, per capita, between 23 cents and US$ 1,58. Special projects are estimated to cost US$ 96,396,000.00.

The formation of medical and auxiliary cadres of the Ministry of Public Health, as well as incentives for research, particularly applied research, are subject to constant re-appraisal and re-evaluation. Specific agreements and general collaboration between the Ministry, the universities and other agencies distinguished by their excellent performance, constitute the basic, essential factors in the field of public health. Priorities, incentives and fiscal assistance are being extended toward projects and research programs which coincide with the prevailing Plan of Action and the Government's Public Health Policy.

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The strategy of the National Development Plan calls for all study methods to be applied in benefit of a human being

STARTING with a premise, contained in Chapter VI of the Second National Development Plan, that "with realistic options, the Government does not accept a proposition that rising economy, by itself, will solve the problem of equitable income distribution, the Government has chosen a different solution: to maintain an increasing rate of development and, at the same time, pursue a policy of a better income distribution, while the snowball grows."

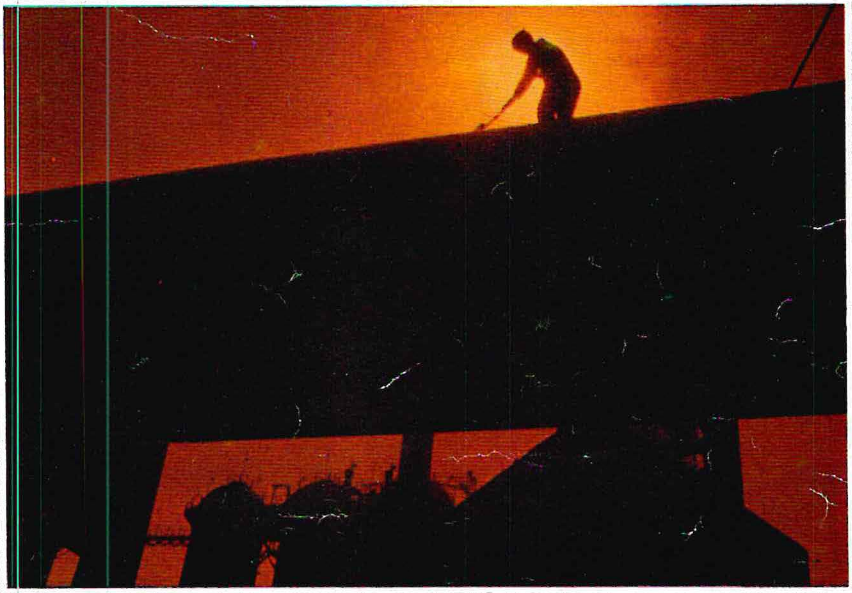
The Chapter above referred to continues: "The truth is that, on one hand, economic development, by itself, may not resolve an adequate income distribution, if left solely to supply and demand market gyrations. Likewise, if left dependent on economic development alone, the solution of the problem may take much longer than national conscience will tolerate or admit in view of the urgency to better the lot of a large segment of the population. But this is not to say that a rapid rate of economic development does not play a vital role — because it offers greater options and opportunities."

With rapid development it is possible to offer better income and consumer goods to all and, at the same time, invest more in future economic expansion. Or, conversely, the dynamics of rapid development are apt to achieve both objectives. In order to place the problem of adequate distribution of income in Brazil in its proper perspective, it is necessary to consider several aspects of the problem:

- The structure of income distribution in Brazil has never been adequate or satisfactory because, traditionally, it was dependent upon long-range social and economic evolution. The post-revolution governments (after March, 1964) could not, and were not, satisfied with the situation. Without prejudice, it may perhaps be worthy to note that income distribution in Brazil is similar (and certainly not inferior) to that of other Latin American countries and in the developing countries elsewhere in the world.
- A simple arithmetic concerning concentration of income, according to customary appraisals, is insufficient to give proper direction to a more sensible policy as to income distribution.
- To begin with, it is necessary to analyze factors which are behind this inadequate distribution and to spotlight, in all development aspects, the primary causes of this disequilibrium. It is necessary to find out whether the concentration of income tend to remain a permanent feature of an economy or is merely temporary?
- According to 1960 and '70 data, all classes of population showed increases in their incomes. However, the lowest-income class showed the smallest rate of increase. On the other hand, the same data demonstrated that the industrial sector of the national economy contributed largely to the overall income index, even though in this particular sector income is distributed on an entirely inequitable basis. But since industry is the one source of individual income with the most accentuated significance, it largely contributes to the overall national economy.

For the same period and according to the same figures, incomes in primary fields, such as agriculture and the unskilled labor market, remained practically static, with income levels at their lowest.

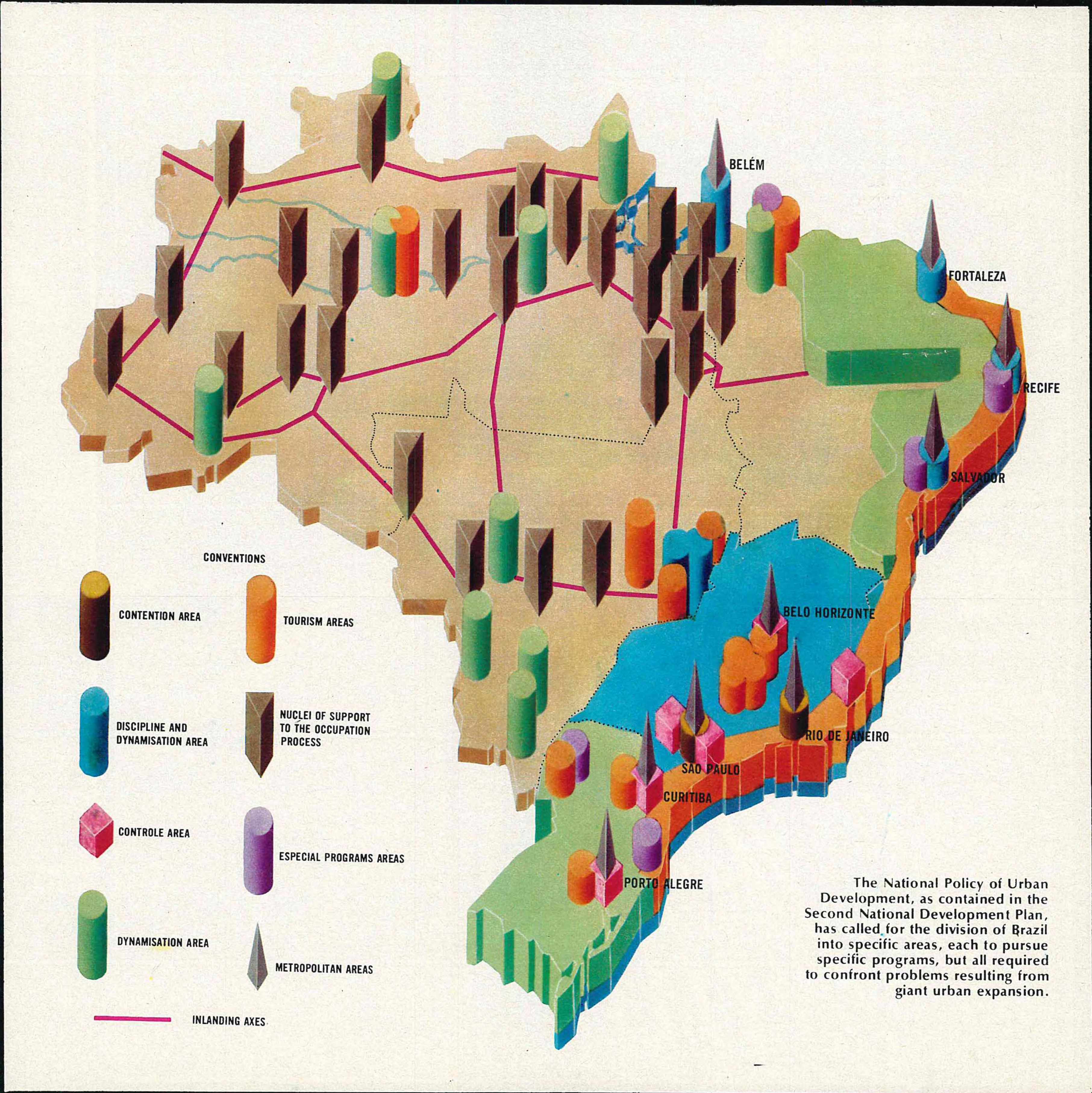
FURTHERMORE, what was wrong when the 1970 income data was computerized and analyzed was this: only the individual incomes were taken into account. Total family incomes were not considered. This, because income tax declarations will more often than not state only the income of the head of the family.



The Second National Development Plan is unique in that it represents purely Brazilian concepts of launching and administering development projects which, at their core, reflect the Administration's top priority and concern with an individual's right to a better life, social security and a worker's fringe benefits which include everything from a guaranteed minimum wage, protection against illness or accident, severance pay equal to a month's salary multiplied by the number of years of service, and, finally, a pension.

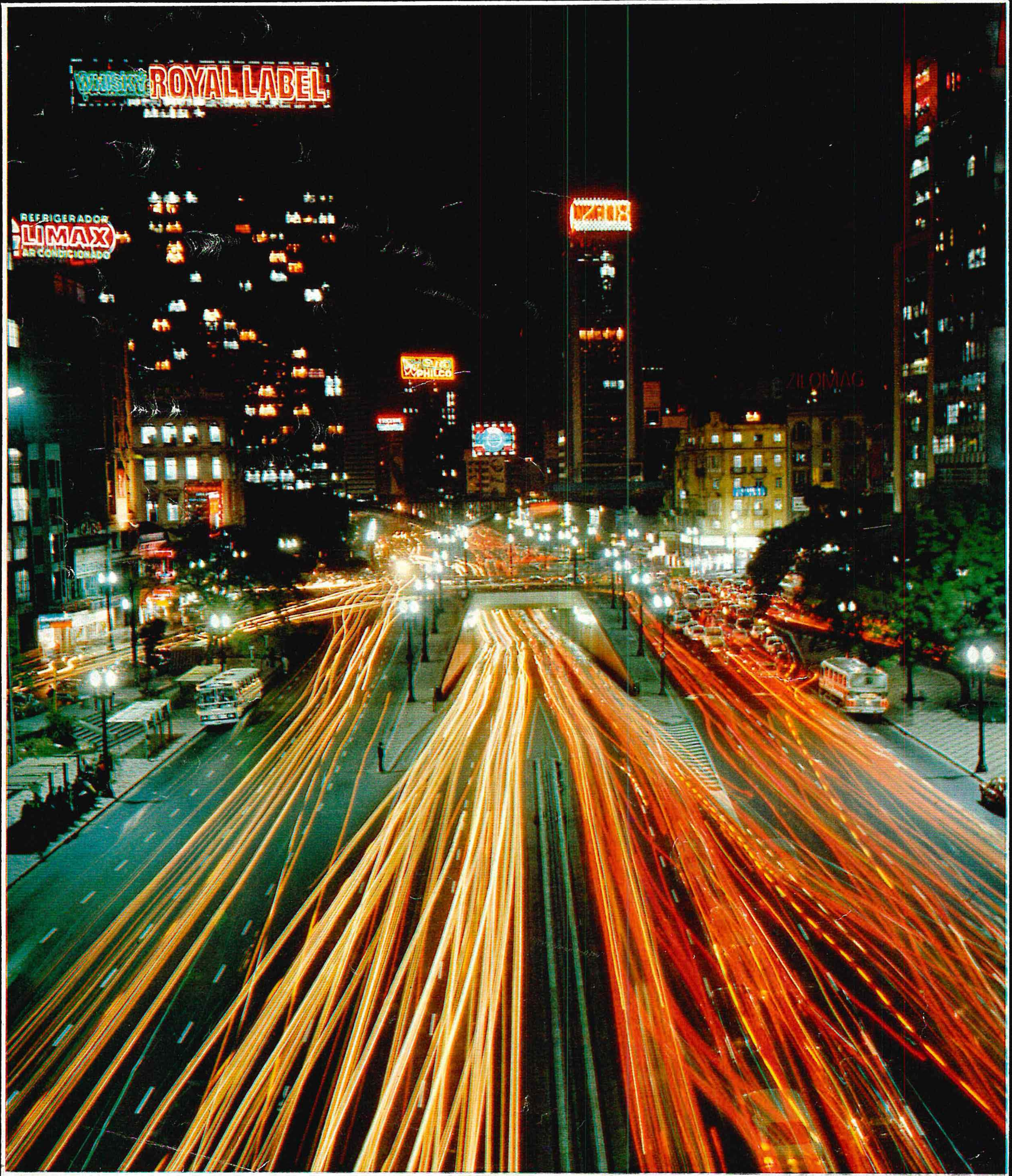
URBAN EXPANSION

When, in 1980, the population of Brazil will have reached the 120 million mark — an estimate which is likely to be surpassed — at least 78 million people will be living in the great urban centers. This is to say that two thirds of Brazil's population will be living in major cities, with São Paulo (Greater São Paulo) and Rio de Janeiro (Greater Rio) becoming virtual megalopolises. Nor is it difficult to foresee the problems these giant urban centers are going to pose, some of which already dominate the metropolitan areas of São Paulo and Rio de Janeiro. According to the Second National Development Plan, one of the gravest problems will be industrial pollution, already existing in São Paulo and Rio and threatening other large Brazilian cities. At the same time, the multiple development phases throughout the nation, involving huge projects and the application of new and modern technology (in urban areas as well as in rural regions), make the preservation of natural resources self-evident.


BELÉM
FORTALEZA
RECIFE
SALVADOR
BELO HORIZONTE
RIO DE JANEIRO
SÃO PAULO
CURITIBA
PORTO ALEGRE
CONVENTIONS
CONTENTION AREA
TOURISM AREAS
DISCIPLINE AND DYNAMISATION AREA
NUCLEI OF SUPPORT TO THE OCCUPATION PROCESS
CONTROLE AREA
ESPECIAL PROGRAMS AREAS
DYNAMISATION AREA
METROPOLITAN AREAS
INLANDING AXES

The National Policy of Urban Development, as contained in the Second National Development Plan, has called for the division of Brazil into specific areas, each to pursue specific programs, but all required to confront problems resulting from giant urban expansion.

São Paulo, at present with more than 7 million inhabitants (and close to 11million within Greater São Paulo), is a Brazilian city whose rate of growth in recent years has presented the greatest and gravest problems. As all big cities in the world, São Paulo is paying heavily for its rapid expansion. In order to have an idea of the speed with which Brazilian cities are growing, it may suffice to note that in only 30 years our urban population became doubled, from 31 per cent of the total population in 1940 to 50 per cent in 1970, and keeps growing at an alarming rate. This was — and is — partly due to constant internal migration — from rural regions into the cities, in pursuit of work, higher wages and better living conditions.



HOTEL GLORIA

Rio even before the leadership it had assumed through the merger of the states of Guanabara and Rio de Janeiro, already had close to six million inhabitants (or about 12 million in Greater Rio with its 16 adjacent municipalities), facing formidable problems akin to all enormous urban centers. These problems are evident in traffic congestion and air pollution, resulting in poorer living conditions and social equilibrium. In 1979, Brazil's urban population will be close to 63 per cent of the nation's total population, or nearly 75 million people will be living in the cities, an increase of 25 million within only a decade! By the end of this decade, nearly 48 million people will be living in urban conglomerates with more than 100,000 inhabitants each (as against 32 million in 1970) and 27 million will populate cities in excess of 500,000 inhabitants (as against 18 million in 1970). Thus, urban problems will continue snowballing — an immense challenge to be accepted and confronted.

Violeta
SOLVEBRA

Porto Alegre

(above), today with nearly 1.5 million inhabitants, is one of the fastest growing cities in Brazil, and is included into the nine metropolitan areas envisaged by the Second National Development Plan. The other areas are: Rio de Janeiro, São Paulo, Belo Horizonte, Fortaleza, Recife, Salvador, Curitiba and Belém. In 1973, the Brazilian cities were responsible for about 85 per cent of the National Gross Product, a total of 600 billion cruzeiros. On this basis, we may foresee urban population contributing up to 87 per cent of the total NGP in 1979. In major Brazilian cities, the rapid rate of growth was responsible for certain distortions in urban planning. The principal urban centers are located along the Atlantic seaboard, with two-fifth of all our city dwellers, the major part of our industries and the better part of all our national production.

Curitiba

(right), the attractive state capital of Paraná, is, undoubtedly, one of the metropolitan areas in which urban problems have been resolved with prudence and intelligence, always considering the well-being of its inhabitants. A city of one million people, Curitiba is justifiably proud of its "green area" — the largest of any Brazilian cities — and streets strictly reserved for pedestrians. The strategy of urban development, previewed in the Second National Development Plan, spotlights decentralization of dominant systems in southeastern Brazil, such as excessive growth of downtown areas, prevailing in São Paulo and Rio de Janeiro.

Belo Horizonte

(above), with about two million inhabitants, had, during the last few years, in addition to a spectacular increase in its urban population, to face problems common to all Brazilian metropolitan areas. To resolve or reduce these problems, the Second National Development Plan suggests decentralization and setting up of regional administrative centers. Additionally, it is felt necessary to improve every aspect of urban structure in order to render life of city dwellers happier.

The state's economy is based on a rapid industrialization and a diversified agriculture.

PARANÁ

A State of accelerated development

THE economy of the State of Paraná has been characterized during recent years by agricultural outputs that have been exceeding, progressively, all prior estimates and expectations, as well as by a process of industrialization that has been gaining pace steadily at a growth rate considerably higher than the national average. The value of Paraná's agricultural production is currently equal to about on fourth of Brazil's total agricultural output. The state's industrial establishment doubled during the years 1971-'74.

The pace of economic development of Paraná, formerly an essentially agricultural state, into a region wherein secondary activity — the industry — is keenly felt as a source of wealth, is due largely to special attractions offered by the state to investors. Specifically, investors are attracted to Paraná by its privileged geographical position. The state is centrally located in the nation's southern and south-eastern regions which account for about 92 per cent of all Brazilian industries; 89 per cent of commercial establishments and services; 88 per cent of manpower employed by industries and the largest consumer markets of Latin America.

Paraná's agricultural activity is quick to responde to the demands of the market. Traditionally based on coffee growing, a commodity which until 1969 represented 40 per cent of the state's agricultural production, the situation has radically changed in more recent years. Agricultural produce which a mere 10 years ago had only a slight importance for the state's ag economy now assume relevant proportions. This applies mainly to wheat and soybean, beans, rice, cotton, ground nuts, potatoes, various species of herbs and fruits. In cattle raising important improvements have been achieved. Beef-on-the hoof is currently estimated at 4.7 million head; the hog herd, at 6.5 million head, is the country's largest.

The Paraná Development Bank is the state government's principal arm in all development sectors. The Bank has been responsible for the launching of pioneer programs, opening up new development areas and inducing private interests to follow suit.

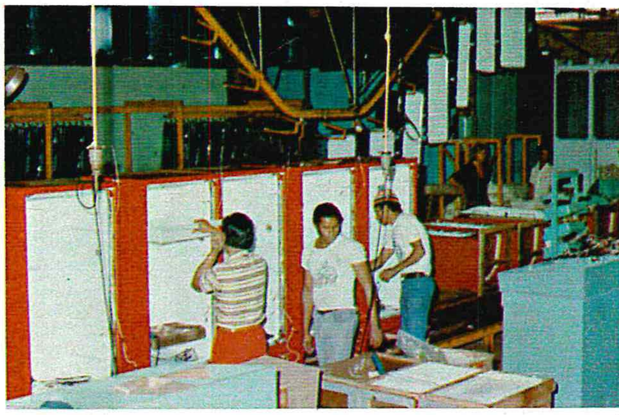
THE state government, for its part, is contributing to the state's rapid development through infrastructure: road construction, increased electric power supply, sanitary engineering etc.

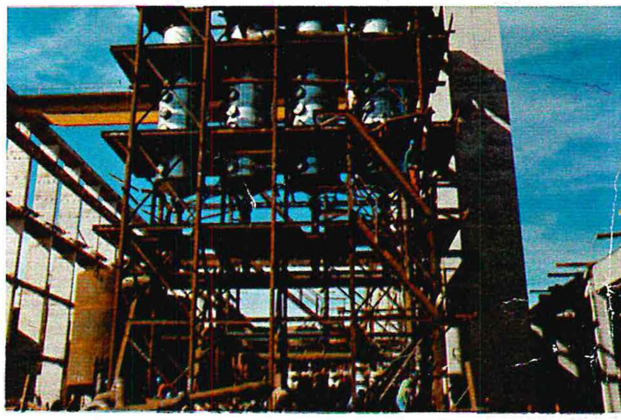
The state's network of paved roads has grown in recent years from 400 kilometers to more than 3,000 kilometers; electric energy generating capacity has been trebled; power transmission lines have been extended from 2,000 to 10,000 kilometers; and new power installations have gone up from 160 localities to 500.

An integrated telecommunications system now covers the entire area of the State of Paraná.

The tonnage of goods moving through the Port of Paranaguá has increased from 925,000 to more than five million tons. During the Second National Development Plan (1974-'79) the construction of an additional 3,000 kilometers of paved roads and highways has been programmed and is now being executed. The State Government, in addition to the State Road Plan, is constructing access roads totalling 1,520 kilometers, which, added to principal highways, will result in 4,520 new roads within the next few years.

DURING the current year, the first phase of the Salto Osório hydro-electric plant on Iguaçu river will become operational. Its final installed generating capacity will be one million kW. Likewise on Iguaçu river construction has begun of Foz do Areia hydro-electric plant whose potential will reach 2,250,000 kW. A third new power plant, Salto Santiago, is in the planning stages with a designed capacity of one million kW. However, the state's deep involvement in expanding electric power availability for economic development of the region will be vastly augmented with the completion of Itaipu Project, the world's largest hydro-electric plant on Paraná river. Itaipu will generate 10 million kW of power!





The Paraná's industrial establishment doubled from 1971 to 1974, though the value of the state's agricultural production is currently equal to about one fourth of Brazil's total agricultural output. The state's government contributes to this rapid development through roads construction, increased electric power supply etc.

BNH

THE NATIONAL HOUSING BANK

THE Brazilian housing problems — and their solutions — have been the responsibility of the National Housing Bank during the last 10 years. The bank was established to function as a central authority of a national system of housing financing, similar to systems and establishments already functioning in many other countries.
Brazil's National Housing Bank is charged by law to care, first of all, for low-income families, not only on a priority basis but also in an ever expanding field. The bulk of our population consists of low-income families and they are of major concern to the Bank.

The National Housing Plan was conceived with view to constructing and financing, on a long-range basis, homes for families whose income varies between one and a five-fold minimum salary. For families without a fixed income and for those dependent upon minimum salary, the National Housing Bank is elaborating a program of constructing residential lots — individual units or apartment style buildings — with the aid of public funds. One of the purposes of this program, to apply to the entire national territory, is to do away with shanty towns spread over large urban areas and to prevent new shanties arising.

FAMILIES with monthly incomes between a minimum salary (532.00 cruzeiros) and the equivalent of five minimum salaries — 2,660.00 cruzeiros — are being taken care of by local COHABs, housing cooperatives linked to the National Housing Bank. Because of its socio-economic significance, the system, understandably, enjoys a priority status.

The overwhelming demand for housing dominates the construction market, with housing cooperatives playing the major promotional role, catering to the needs of all unionized workers whose combined families' incomes exceed five minimum salaries.

In the medium to superior construction market the principal financing source is the Brazilian Savings and Loan System, dependent on real estate certificates and savings accounts. Also available to this market are loans — of up to 393,000.00 cruzeiros — from the National Savings and Loan Bank, real estate credit companies and savings and loan associations.

Without ever losing sight of its principal objective, popular housing, the National Housing Bank, in 1970, had branched out into the field of basic hygiene through construction of sewage disposal systems.

POPULAR housing, basic hygiene through construction of sewage disposal systems, transportation, anti-pollution measures, always with view to collective well-being, are the objectives of the National Housing Bank.

BNH
BANCO NACIONAL DA HABITAÇÃO

Surveys had clearly demonstrated the necessity of creating in every state of the Union of sanitary engineering companies charged with the establishment, operation and maintenance of sewage disposal and water supply systems. The financial problems involved had been resolved through the establishment of Funds to Finance Water Supply and Sewage Disposal services, administered by state governments in agreements with the National Housing Bank. In this way, operational costs are reduced and the execution of urban projects, even in the poorest towns and villages, becomes easier to realize. Interest on funds invested in these programs varies from 2 to 7 per cent, depending on a state's fiscal capacity and its population density.

ADDITIONALLY, the National Housing Bank planned programs, as a result of its expanding activities, include general improvements of urban living through harmonious development of towns and cities.

The National Housing Bank has during the last year, and in conformity with social development guidelines laid down by General Ernesto Geisel's Government, contributed a great deal to overcome antiquated concepts in accelerated urban development due to demographic expansion. Involved — in addition to housing, its prime objective — are projects affecting suburban areas as well as the city proper, transportation and antipollution measures, including water and atmospheric pollution, always with view to collective well-being.

SAVING PL WILL BUY

All the money accumulated through savings books is destined to finance people's own houses or apartments. The total, to date, of housing units financed through Home Financing System has reached 1,105,000 of which 442,000 units have been constructed through the Brazilian Savings and Loan System.

The major portion of resources of the two systems is being accumulated through savings plans and savings books whose principal advantages — and attractions — are: monetary correction and interest, exempt from income tax, as well as immediate availability of funds, underwritten by the Federal Government. Moreover, everyone participating in the savings systems can withdraw part or all of his or her savings at any time, without prejudice as to monetary corrections and compound interest.

In December, 1974, total resources of the Brazilian Savings and Loan System had reached 57,591,000,000 cruzeiros (roughly seven billion U.S. dollars).

It is the Government's policy that Brazil should develop, economically, through hard work of its inhabitants — and savings. There is no coercion in this respect; only encouragement based on the premise that no nation can resolve housing problems by State measures alone, only with public spirit as expressed in popular savings.

The importance of savings plans under both systems is self-evident. Brazil, it is conservatively estimated, will need 30 million new homes by 1985 to provide habitation for approximately 20 million new families that will emerge by that year and for those whose increasing earnings will want their own and better residences. The savings accounts do, doubtedlessly, benefit, directly and indirectly, those who save at least the smallest portion of their earnings. These prudent people may look forward with confidence toward acquiring their own houses or apartments which would be further financed by Home Financing System, an institution designed to carry out the policy of the National Housing Bank to further popular savings and acquisition of one's own home.

Because of some ill-practices affecting these savings accounts, the National Housing Bank has laid down firm rules and regulations, governing accountability, monetary correction and accrued interest of saving book holders. Under the new order of things, monetary correction (which is determined by the Federal Government in order to offset inflationary loss of the acquisitive value of currency) is applied to savings accounts every three months, plus a six per cent compound interest per annum. Savings accounts' monetary correction is exempt from income tax.

Monetary correction and interest are being deposited to individual savings accounts quarterly. Both are calculated on the basis of the quarterly average of an individual deposit. None of this benefits are applicable to accounts which have remained static during a period of 180 days (in other words, if you don't keep adding at least something during half a year to your savings account, you forfeit the monetary correction and compound interest benefits).

Specific savings accounts, as well as Bills of Exchange, offer various guarantees: 1. They are guaranteed by the total assets of companies which receive savings deposits and sell Bills of Exchange; these assets are always in excess of deposits; companies engaged in this field are subject to audit and control by the National Housing Bank and the Central Bank of Brazil; 2. They are furthermore guaranteed by mortgage deeds of properties financed with the accumulated funds of savings accounts; the value of these mortgaged properties is always superior to that of liabilities to depositors and buyers of Bills of Exchange; 3. Savings accounts ard guaranteed by the Federal Government via the National Treasury, State Treasuries and/or the National Housing Bank. Bills of Exchange are underwritten by the National Housing Bank.

Caderneta de Poupança
mais renda com
menos
imposto de ren

The success, in Brazil, *of voluntary savings during the last few years, can best be explained by certain outstanding advantages and attractions the savings accounts hold for the public. To save has been a habit which from time immemorial had been passed on from father to son, always remembering that "to save is not a must but a free will..." The major source of funds for the Brazilian Savings and Loan System and the Home Savings Plan is the Savings Account.*

The Brazilian *Savings and Loan System is considered to be one of the world's best. Its enormous financial resources are based on individual, voluntary savings accounts. In addition to monetary correction (to offset inflation) and interest which is exempt from income tax, these savings accounts are guaranteed by the Federal Government and one is free to deposit or withdraw as he or she likes. In almost every instance, a savings book holder is looking forward to acquiring his or her own house or apartment.*

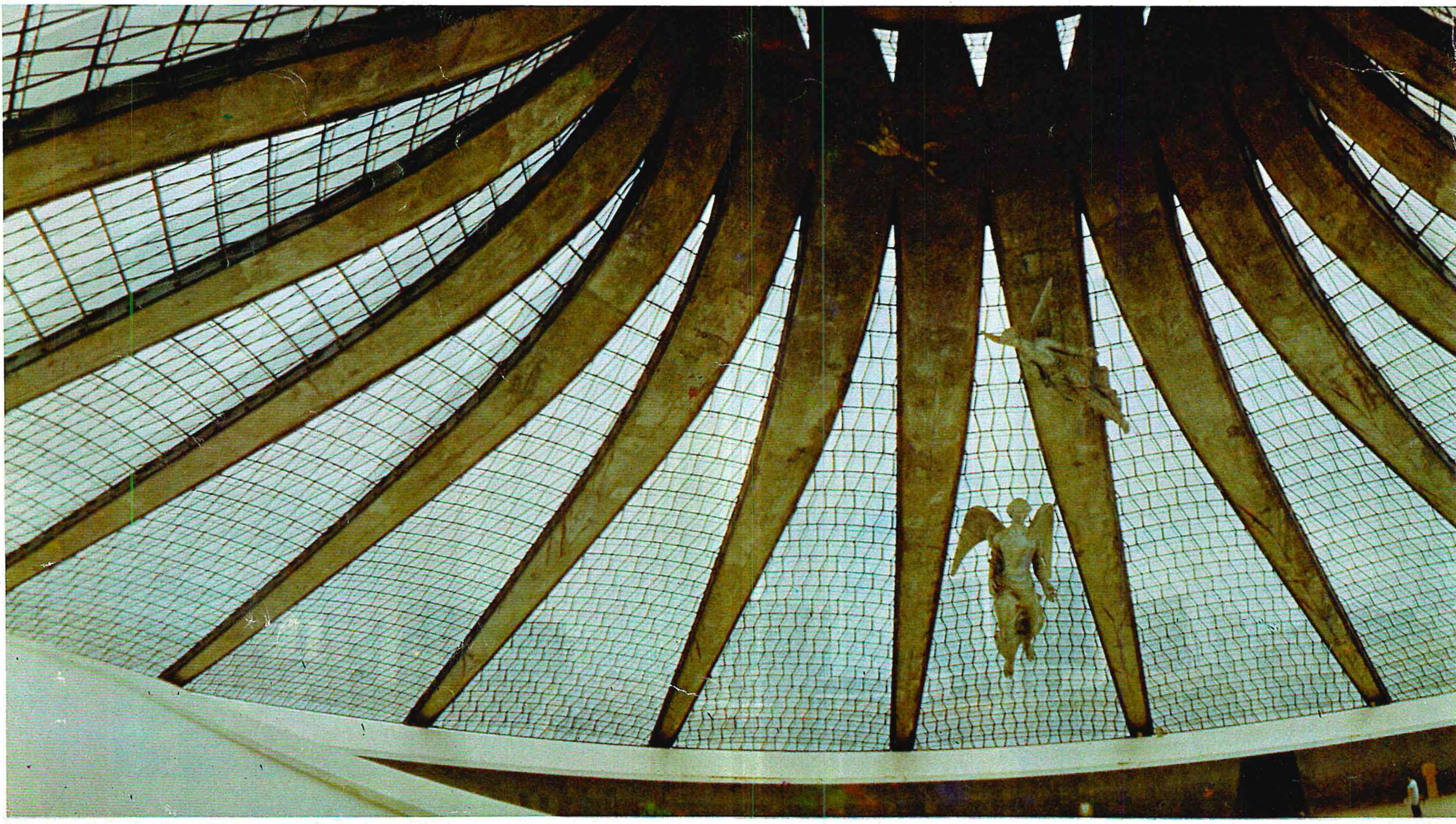
ANS THAT ONE'S OWN HOME

Aqui
Caderneta de Poupança

A Brazilian likes *to spend money. In these modern times, however, every Brazilian, from infancy, becomes conscious of the value of savings, for his own personal benefit, for his family and for the good of the Nation.*

the future embedded in concrete

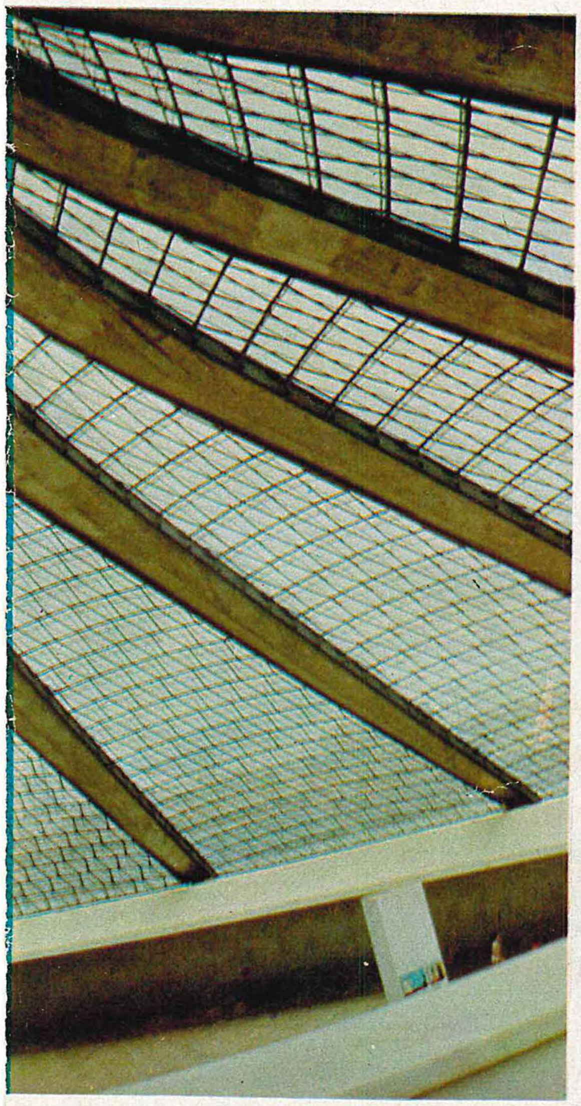
brasí

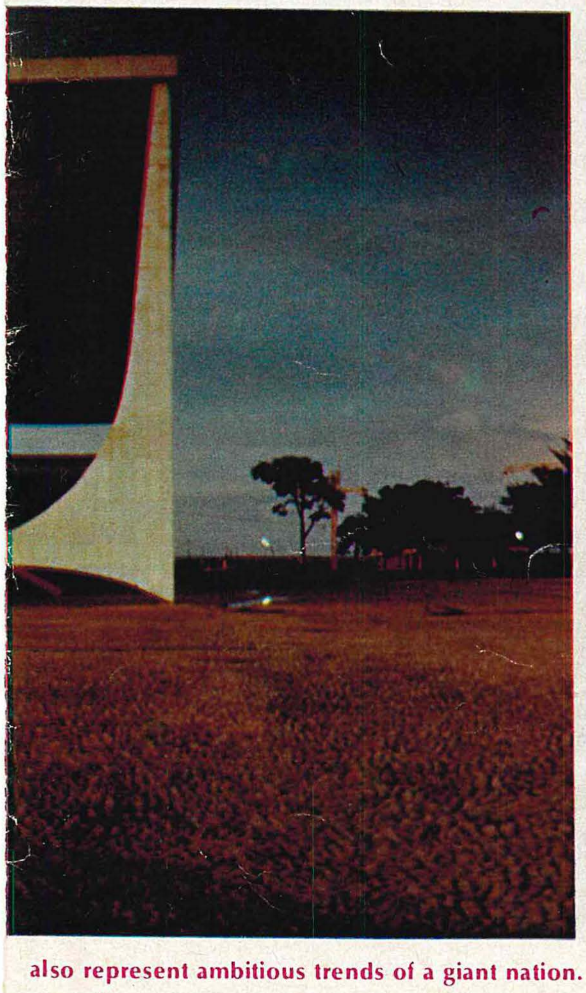


The Cathedral cupule, the Supreme Court edifice and the National Congress represent simplicity couples with beauty. But these simple lines and aspect

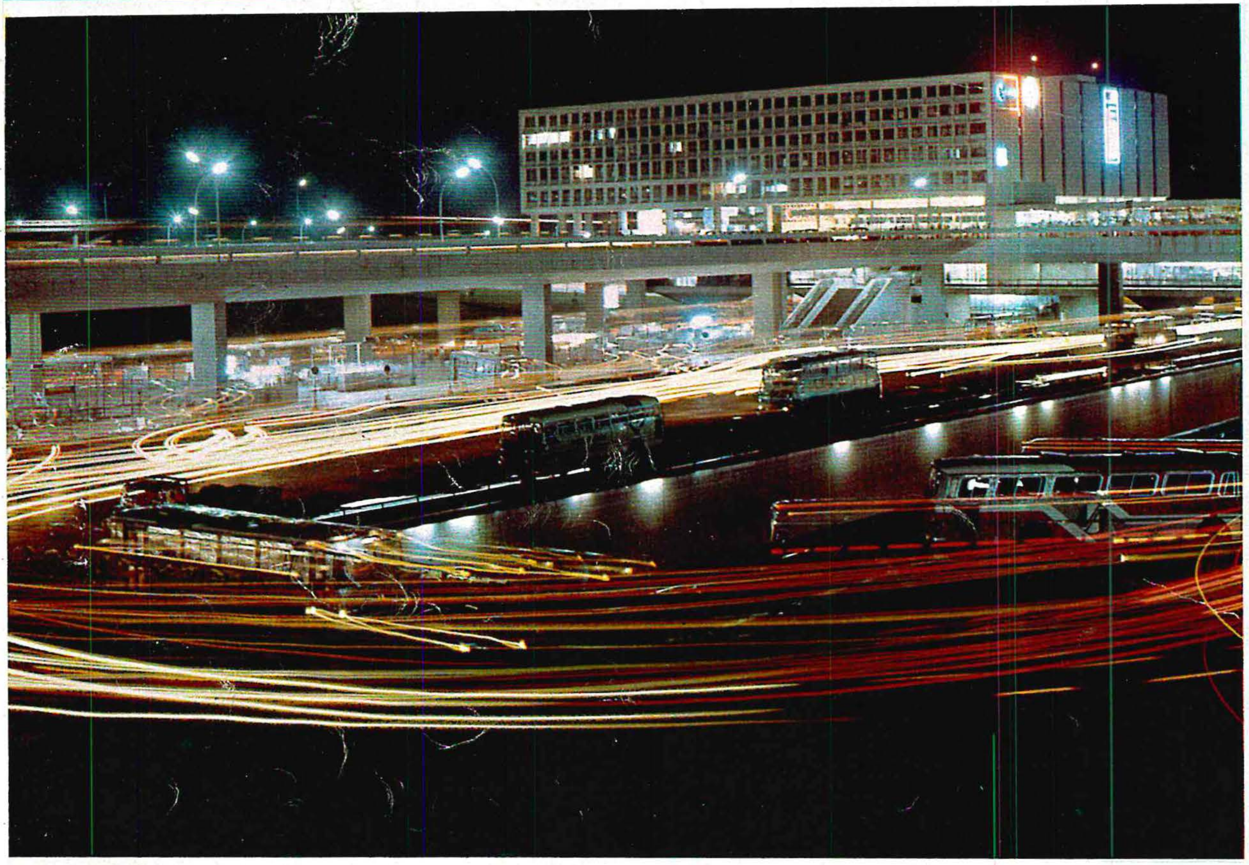
lia

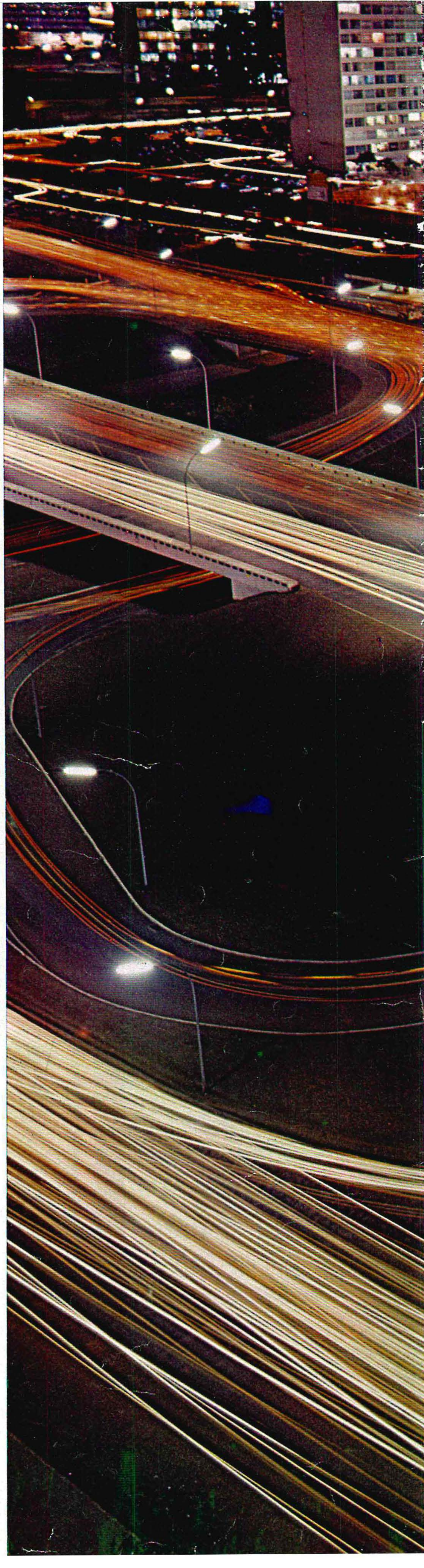
Within wide open spaces, dimensions that surpass common concepts, with its parks and gardens, its urban planning and architecture all its own — Brasília has become known as The City of the Future. Inaugurated by ex-President Juscelino Kubitschek in 1960, conceived by the geniuses of Oscar Niemeyer and Lúcio Costa, and consolidated by four post-revolutionary (after 1964) governments, the new Federal Capital of Brazil is today known and admired the world over for its futuristic urban planning and its exceptional, unique architecture. Brasília also stands out today as a symbol of a great nation looking forward to the future. As Corbusier said: "This is where one finds creative talent. Here, the palaces are truly original and in good taste; the objectives of Brasília's creators have been achieved; Brasília will become contemporary in the year 2000."





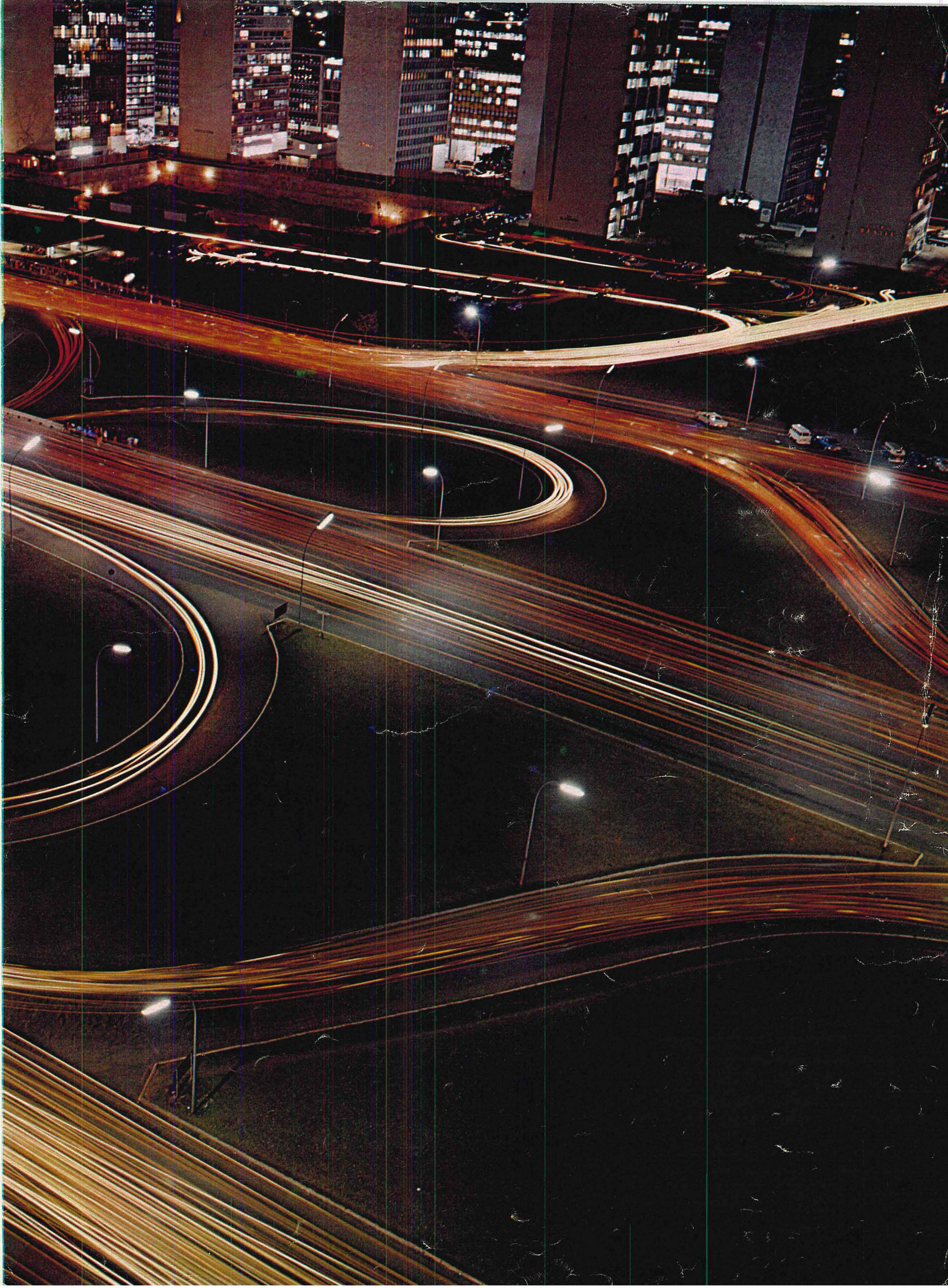
also represent ambitious trends of a giant nation.





SEEN at night, Brasília appears like an enormous sea of lights and multi-colored electric signs, pleasing to the eyes of its inhabitants and visitors. Concrete and glass predominate in clean lines buildings astride the principal thoroughfares. During daytime, their multicolored façades reflect brilliantly sunrays peculiar to Brasília. At sundown, as the sun declines toward the immensity of the highland plateau's horizon, Brasília assumes a coloring and a vision that don't seem to be real. With the sky of purest blue, changing its hues with the sunset, the vision and the sight become irrevocably planted in the memory of all who have once seen it. In addition to being the political center of the nation, the city is becoming ever greater tourist attraction of incomparable importance. The city's illumination is perfect and, at night, traffic lights give it an aspect entirely its own, not encountered in any other Brazilian city or, probably, in the whole wide world. It's a monumental city, yet it has its intimate atmosphere; simultaneously sprawling in all directions and concise, profoundly urban and rustic, functional and lyric. Its architectural concepts are easily comprehensible, characterized by visionary simplicity, yet varied in its component parts, perceived by its respectives functions. The sum total is harmony, even though it may appear, at first glance, contradictory.

From certain elevated points, practically the whole city may be seen — the hotel sector, the banking area and ministerial row, the bus terminal, the commercial center, the clover-like underpasses and access roads.

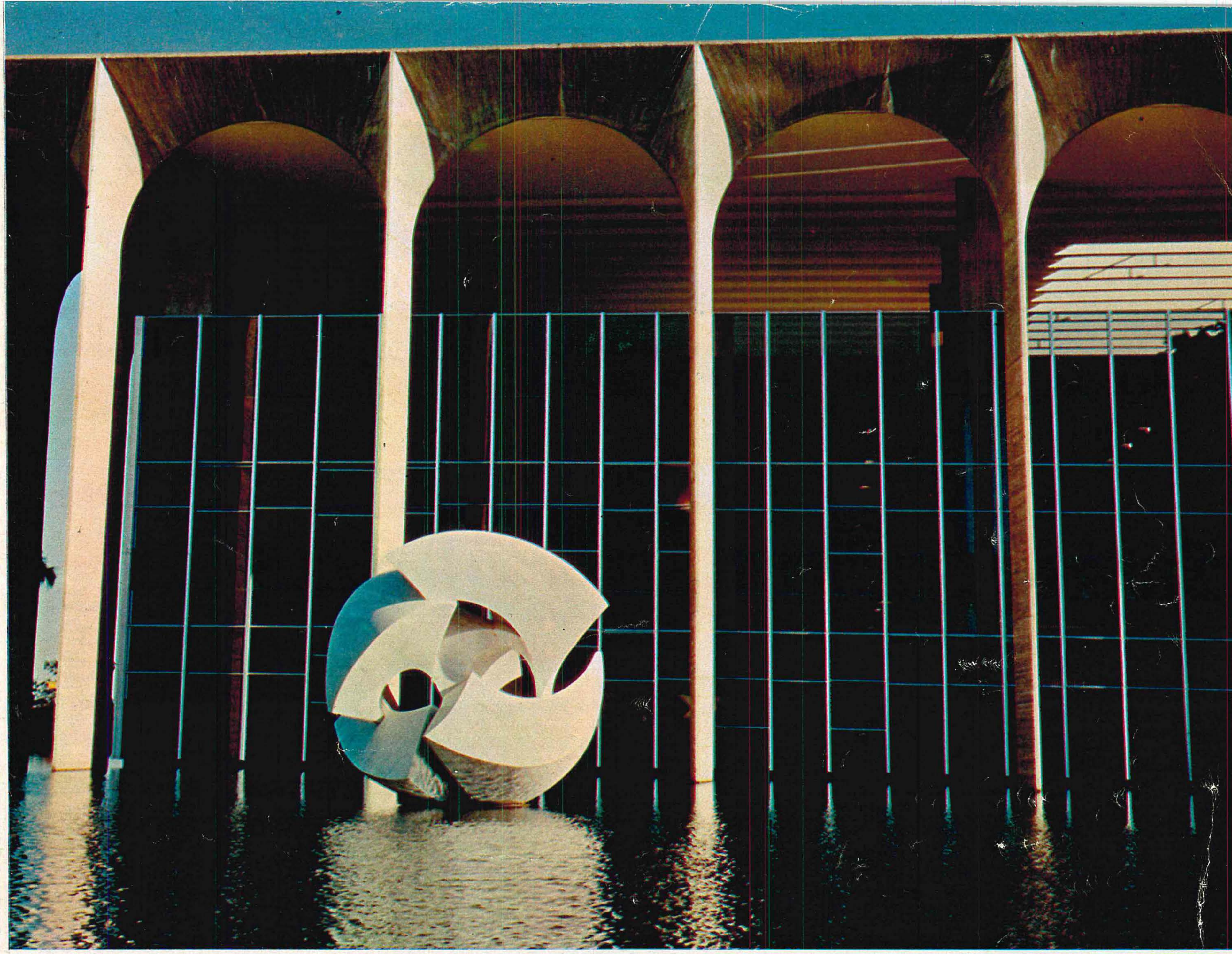


"Palácio dos Arcos" (The Palace of the Arches), site of the Ministry of Foreign Affairs in Brasília, reflects, in the purity of its lines, and the overall harmon

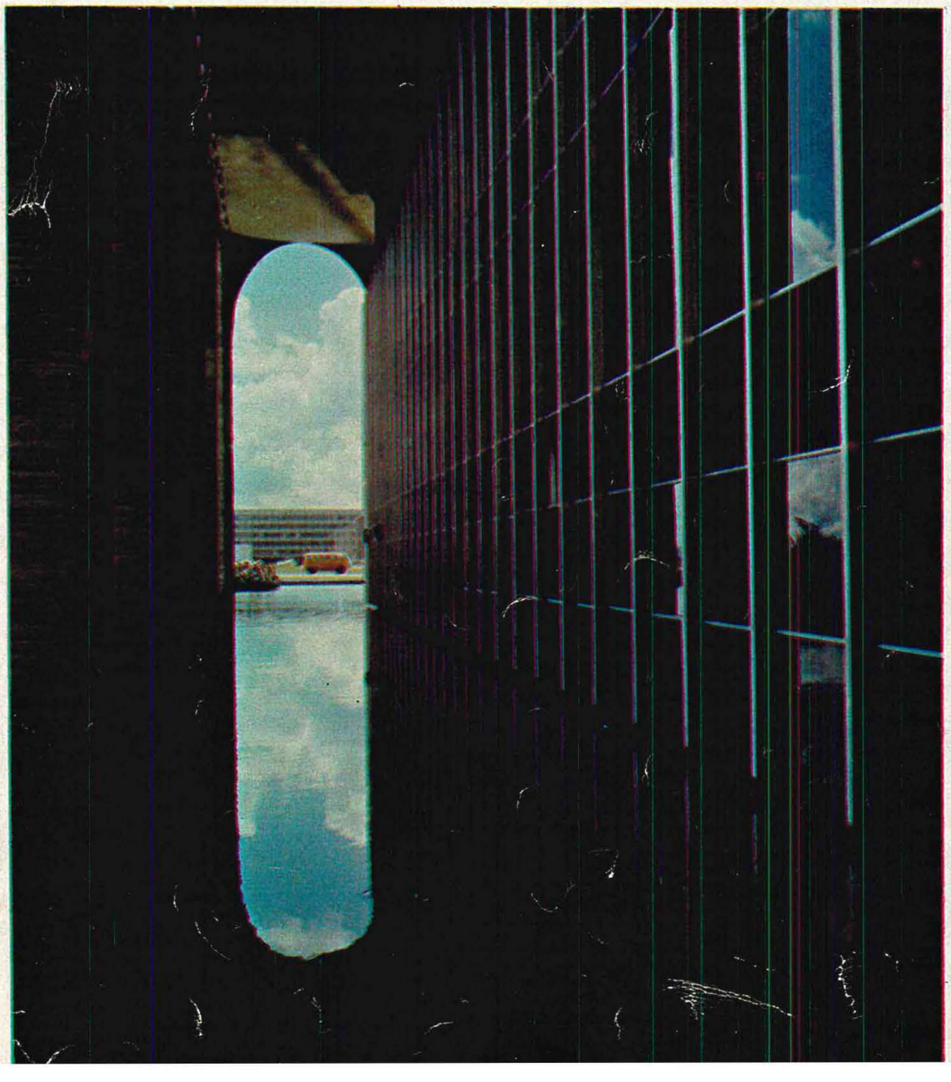
FOREIGN politics on the international scene are but projection of national interests of every nation. Brazilian diplomacy has managed to contribute, during different phases of history, to the concept of national sovereignty with dignity and firmness. Today this concept is primarily directed toward our nation's economic and social development. The basic requirement of diplomacy is to translate into practical and operational formulae the general principles of a foreign policy, compatible with national and international realities. Obviously, it is impossible to plan a foreign policy without a profound knowledge and appreciation of the international situation and certain estimates concerning possible changes in international affairs, entirely beyond the control of one or another nation. Presently, such estimates are made more difficult because of interdependence of certain areas of the world and the swiftness with which economic and political changes take place on the international scene, factors which require high capacity of adaptability and flexibility of a nation's approach to foreign affairs.

Operationally, external politics are limited to space in time, without, of course, necessarily affecting basic principles or tactics, nor ethical values and concepts, especially as far as national interests may be concerned. Necessarily, one has to distinguish the essential — objectives directly linked to national interests — and the circumstantial, the exercise of foreign policy dictated by international situations and influenced by converging interests, negotiation and intransigency.
In a world of constant changes, as at present, permanent concurrences do not exist, nor lasting divergencies. Therefore, automatic alignments — political or economic — are likewise hardly possible today. Exploring favorable situations and reducing areas of tension and disagreement are, essentially, objectives of diplomacy.

After the Second World War, the world became divided into two disinct spheres of influence, each dominated by the two superpowers: the United States of America and the Soviet Union. Simultaneously, while the two great powers engaged in ideological conflict, in other regions an intense fight for political independence, economic and social development appeared on the world scene. Not without an ideological background, this movement toward political and socio-economic emancipation could not — and cannot — be considered as unimportant and therefore is influencing our diplomatic policy and conduct. Hemispheric conflicts, whether between East and West, North and South, even though based on realistic divergencies, do not present an uniform pattern. Present-day Brazil has reached political maturity, in internal as well external affairs, to a degree which permits this country to evaluate objectively prevailing situations, and to act firmly, always with absolute priority in defense of national interests.



ious design, the nation's prevailing new concept of diplomacy, based on realistic appraisal of the world situation and Brazil's capability to deal with it.



This is clearly evident and is brought to the fore in the guidelines laid down by the President of the Republic in regard to the foreign policy of the IV Post-Revolutionary Government — to follow **responsible pragmatism.** Obviously, the non-existence of "automatic alignments" does not mean the disappearance of basic interests which tie Brazil to its traditional friends. Cooperation between nations with mutual interests or for mutual advantages is the most fruitful. For Brazil, firmness and a profound sense of responsibility are but two facets of the same stance.

The foregoing is in respect of international politics. As far as areas and problems are concerned which affect Brazil directly, the President has clearly defined Brazil's diplomacy, on a priority basis, "with our neighbor states and overseas friends". The attitude of Brazil in foreign affairs stems from a historic heritage — to appraise world situation in the light of national interests.

To sum up: While aspirations for world dominance by the two superpowers continue, it seems apparent that there still is plenty room for international action. For this action, or dialogue, reasonable thinking among all nations is indispensable: avoidance of regional antagonisms; development and strengthening of ties for mutual benefit never losing sight, of course, of a nation's own interests and reciprocal advantages.

en se abonando todo crece

Cuando el Brasil fué descubierto en 1500 por el Almirante Pedro Álvares Cabral, el escribano Pero Vaz de Caminha redactó una relación al rei D. Manuel en que hablaba ser la nueva tierra tan fértil que, en ella, "en se plantando, todo dá".

Más de cuatro siglos pasaron. Hoy la humanidad pasa de cuatro mil millones de personas. Y todas las tierras necesitan ser fértiles. Pero Vaz ahora escribiria que "en se abonando, todo

ADUBOS VIANNA yá acreditaba en eso. Hace medio siglo sus productos vienen haciendo con que las cosechas brasileñas se multipliquen, perfeccionando cada vez más sus productos. Llame el representante más próximo de ADUBOS VIANNA y el le indicará la fórmula más apropriada para sus tierras. El resolverá definitivamente sus problemas con fertilizantes. Y usted verá entonces por que el Brasil está creciendo, verá que todas las tierras podrán ser fértiles, abonadas por quien tiene grande y actualizada experiencia en el assunto.

everything you season will grow

When Brazil was discovered, in 1500, by admiral Pedro Álvares Cabral, the scrivener Pero Vaz de Caminha wrote a report to the king D. Manuel where he says that the new land is so fertile that "everything you plant it will grow!"

More thant four centuries have passed since then. Today there are more than four billions of persons. And every single land must be fertile. Now Pero Vaz would write that "everything you season, will grow".

ADUBOS VIANNA already believed this. For half a century their products are making the Brazilian harvests multiply by improving their products more and more. Call ADUBOS VIANNA's agent next to you and he will show you the most appropriated formula for your land. He will solve definitively your problems with fertilizers.

And you will see then why Brazil is growing, you will see that all the land can be fertile, seasoned by whom has a great and an up-to-date experience in this matter.

ADUBOS VIANNA S/A INDÚSTRIA E COMÉRCIO

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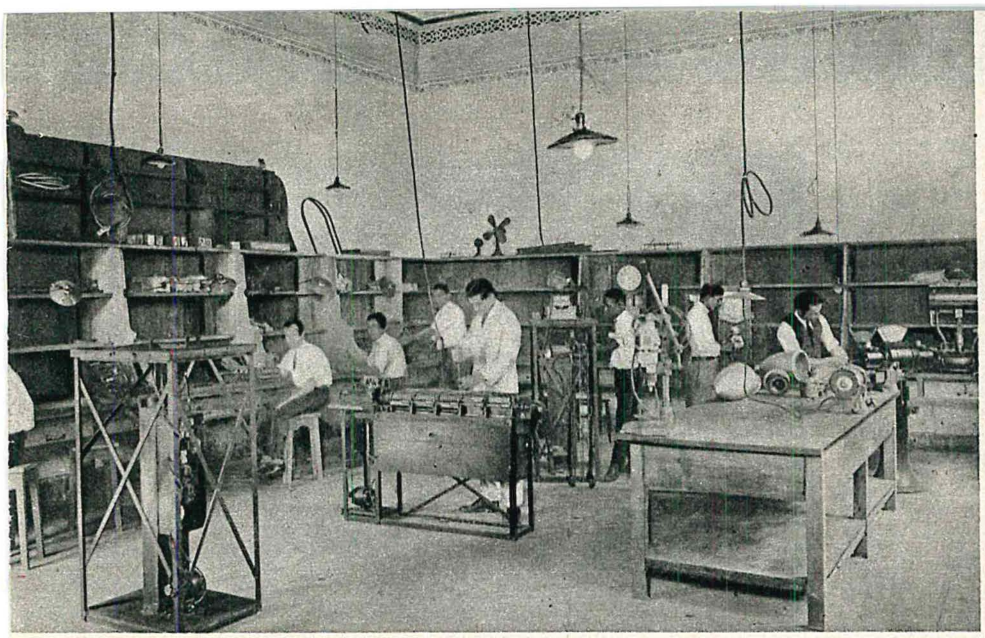
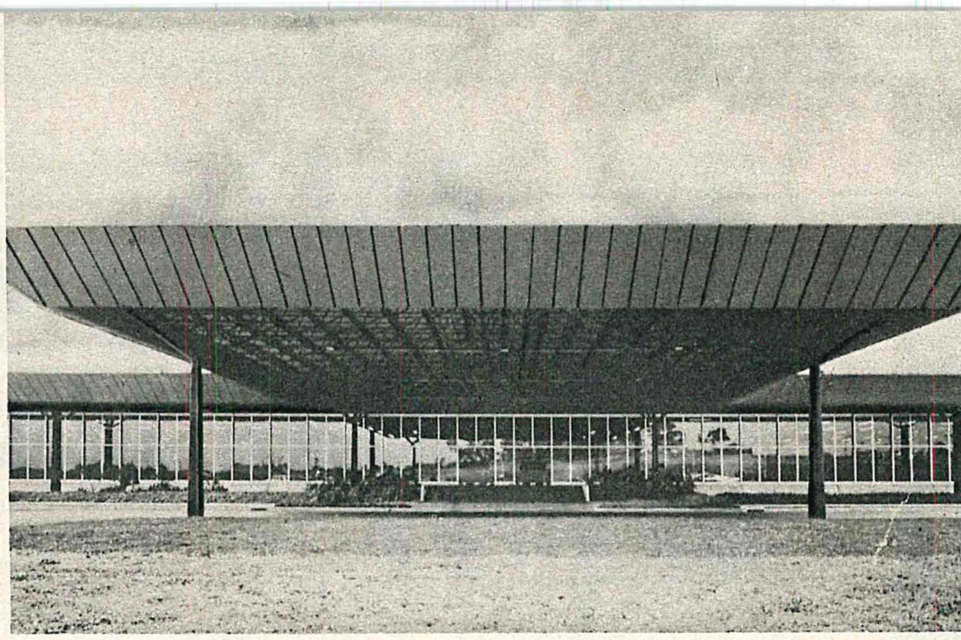




IBM is 50 years old.

IBM is always young.

Today, upon completing 50 years in Brazil, our new plant in Sumaré, São Paulo, includes in its production line central processing units (the computer itself), magnetic tape units and its control units, video terminals, printers, card punches and verifiers, besides various computer components and electric typewriters.

This is equipment of the most advanced technology, manufactured in Brazil to cater to the growing necessities of Brazilian development and which is exported to several countries such as Japan, Mexico, France, Germany, Australia, Argentina, Belgium, New Zealand, etc.

When the call sounded for exports, in 1964, we were one of the first enterprises to rally.

Already in 1965, we responded with 100 thousand dollars worth of exchange. From then on it was continual growth: in 1973, we reached 22 million dollars worth; in 1974, we achieved the figure of 54 million dollars.

All this represents the work of 5 thousand engineers, technicians, specialists and administrative Brazilians. A task of constant development and innovation, which began in a small office in Rio de Janeiro, in the Brazil of Arthur Bernardes.

IBM

You wouldn't say it, but IBM Brazil is completing 50 years.

HALBANITE AQUAMARINE THE NEW BRAZILIAN BEAUTY

Halba **has built a landing field near its mine to receive clients interested**

NATURE produces very beautiful stones yet a small part of this process should be completed by man, through the means at his disposal. Thus, an amethyst that has been polished has sometimes a brown color, but after being heated to temperatures between 200° and 300° C. turns a reddish purple of rare beauty. Some turmalines attains the most beautiful colors, after being submitted to a temperature between 600° and 700° C. With many other stones like Kunzite, Morganite, Citrine, Tanzanite, Aquamarine, etc. the same thing happens. More or less 80% of the Aquamarines occur, in nature, as yellow, gray, yellowish-green, etc. It is only after being heated to temperatures between 300° and 750° C. that they acquire that blue color that is so beautiful.

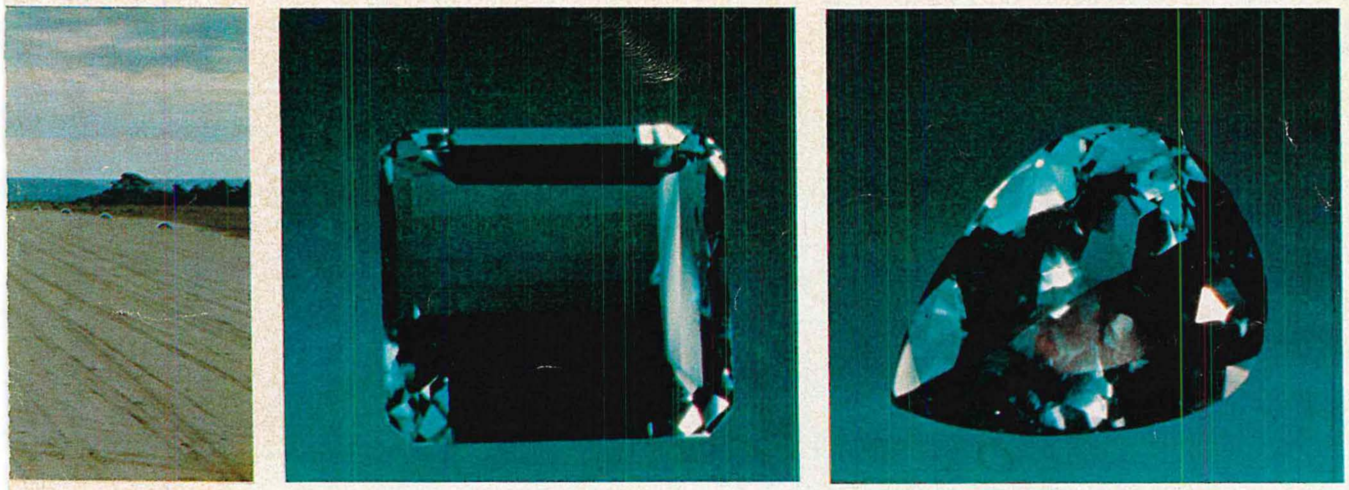
The techniques to make stones more beautiful are often learned by chance. This, for example, was what happened with an aquamarine that came from the State of Espírito Santo, from a mine called João Neiva. This stone had little value, for, however much it was submitted to heat, the green would still not disappear. But once someone heated up some of these stones and when he remembered that it was already at 800 degrees C. he quickly turned off the "oven", as he supposed that the heat had destroyed the stones, for it was of great intensity and no aquamarine had ever withstood this kind of heat without breaking down. Nevertheless, to his surprise, when the stones had cooled it not only had not broken, but they had turned a deep-blue color with the intensity found in the very best aquamarines. From that day on, the value of the stones produced by that mine multiplied several times.

From left to right, tunnel located in the pegmatite dike from which the Halbanite **aquamarines are**

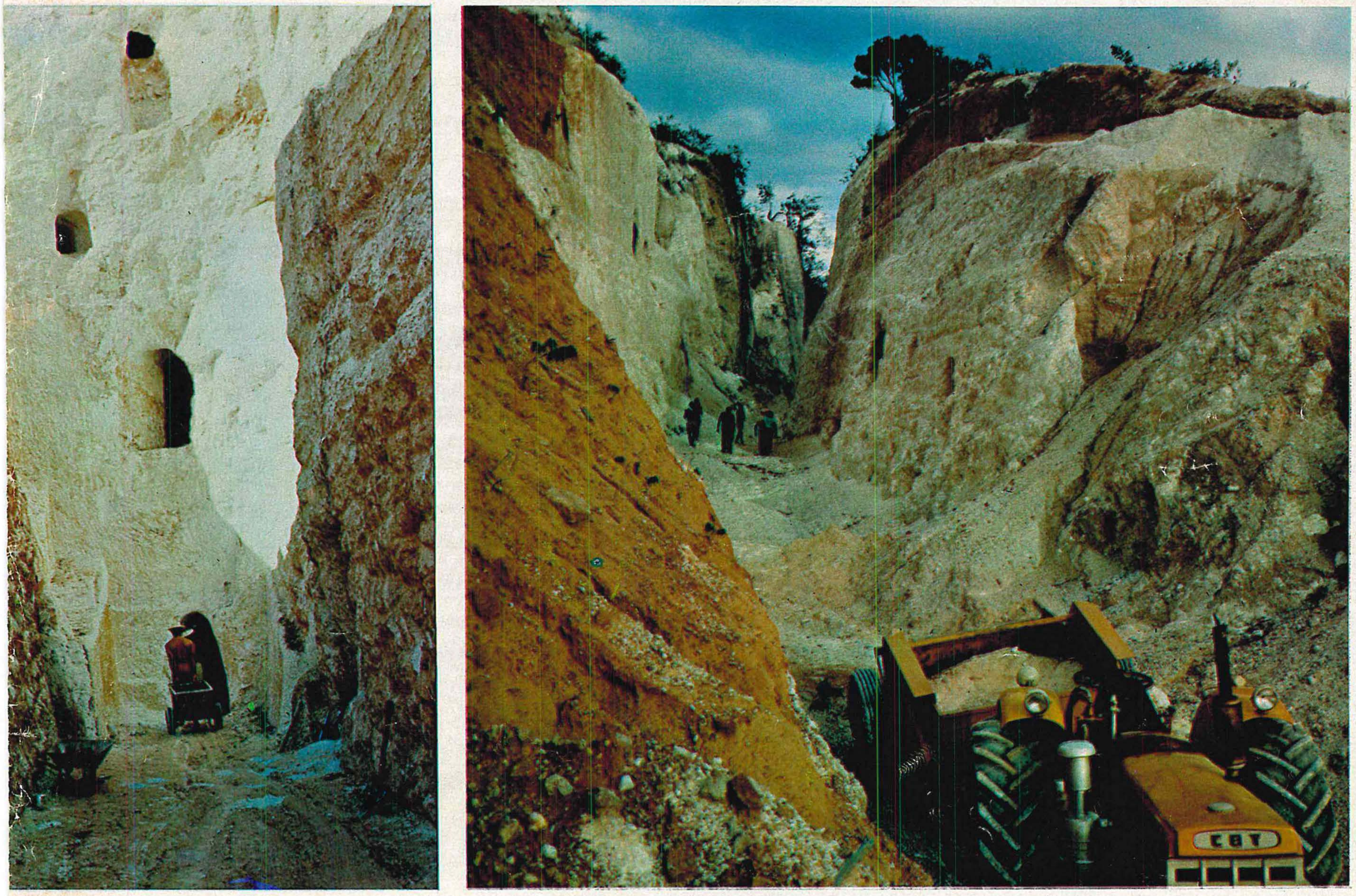
THE aquamarines of the HALBANITE type occur in nature in colors light-pink, salmon-yellow, light-gray or light-blue, but, after undergoing a process even simpler than heat, turn a deep blue which varies in intensity reaching the blue of the sapphire. One of the characteristics of this gem is its rarity, since it is found in only one place in the world, the Valley of Jequitinhonha, near Barra de Salinas. This deposit is the property of HALBA-COMÉRCIO E INDÚSTRIA DE PEDRAS PRECIOSAS S.A., which is who found these lovely stones in the region.

As the HALBANITE aquamarine, a stone of rare splendor, looks like no other stone, and to remove any doubts at all, HALBA-COMÉRCIO E INDÚSTRIA DE PEDRAS PRECIOSAS S.A. showed to the great gemmologists of the world how this stone had attained such beauty. The first to know were the gemmologists Francisco Muller Bastos, F.G.A., G.G. and Dr. Rui Ribeiro Franco, Director of Brazilian Association of Gemmology. Soon after this, the gemmologist Francisco Muller Bastos wrote an article published in the American magazine specialized in gems, the "Lapidary Journal", declaring the HALBANITE aquamarine to be a stone not only of great beauty, but also one which that is not treated by X-rays, gamma rays, neutrons, protons, electrons or any other particle issuing from radioactive substances or nuclear equipment. Dr. Rui Ribeiro Franco, after a technical examination has also affirmed what was stated above, and giving all the characteristics of the stone, stated that it is a natural aquamarine and its improvement process is as simple as can be. Professor Speranza Cavenago-Bignami Moneta, author of one of the best books on gemmology in the world, was the first foreign gemmologist invited to see the process "S.M." (Simple Method) and showed great enthusiasm for the stone and for the simplicity of the process. She is going

Halba-Pedras Preciosas S.A. discovers the halbanite aquamarine in Brazilian ground



in seeing the mine "in situ". Their home office is in Belo Horizonte, capital of Minas Gerais, at 1.031 São Paulo Street.



extracted; front view of the pegmatite dike; and general view of one of the pegmatite dikes of Barra de Salinas, in Minas Gerais, Brazil.

to exhibit the HALBANITE aquamarine in the fourth edition of her book "Gemmology" which will be published shortly. Her scientific interest was so great, that she is going to speak only about the HALBANITE aquamarine at the next International Congress of Gemmology that will take place in Los Angeles, probably in October.

A great quantity of existing stones, like almost everything that exists in the world, undergoes the effects of light and heat. These effects in many cases are manifested by the gradual loss of color the minerals undergo. As an example we have the blue Topaz, Kunzite, Morganite, the yellow Sapphire, Amethyst, Tanzanite, Hidenite, Zircon and others.

As the HALBANITE aquamarine is a very beautiful stone, HALBA-COMÉRCIO E INDÚSTRIA DE PEDRAS PRECIOSAS S.A. always recommends that buyers not leave these stones unnecessarily exposed to the effects of light or to the heat of the sun, so that their color and beauty do not lose value.

AT the moment, the objective of HALBA-COMÉRCIO E INDÚSTRIA DE PEDRAS PRECIOSAS S.A. is to find these stones in at least commercial quantities, since the demand for them has been great everywhere in the world. For this reason, the firm HALBA-COMÉRCIO E INDÚSTRIA DE PEDRAS PRECIOSAS S.A. has constructed a site near the deposit and has sent several machines to exploit the locale. Some finds have been made and it is believed that a larger quantity of stones can be found at a deeper level, for at less deep levels the production has not been satisfactory.

One thing can be happily affirmed; whether the production of the HALBANITE aquamarine is scanty or in commercial quantities, it is without a doubt that a new richness found in Brazilian soil will bring exchange values to Brazil, while at the same time providing beauty and value to those who acquire the gems.

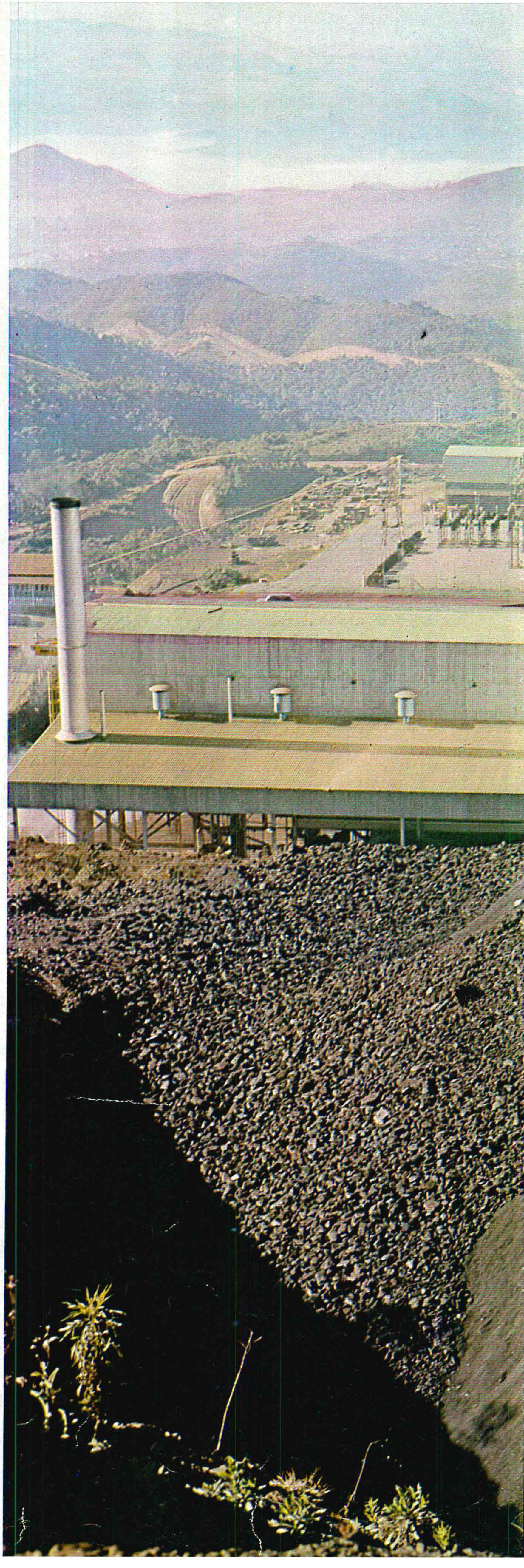
A NATION FOR

INDUSTRIAL
STRATEGY

GED IN STEEL

TO treble steel production within a short time is the goal of three Brazilian state-controlled steel mills: The National Steel Company (Companhia Siderúrgica Nacional), Usiminas and Cosipa. This is a major challenge which is being won by the companies' technicians. The expansion programs of the three steel mills are being accomplished without prejudice to their normal operations and without diminishing their output capacities to satisfy demand. The National Steel Company, by the time the Second National Development Plan will have been attained, will produce 4.6 million tons of steel annually; Usiminas — 3.5 million tons, and Cosipa — 3.5 million tons, a total of 11.6 million tons. With this output and additional production by mills now under construction Brazil will become self-sufficient in steel, leaving a surplus for export.

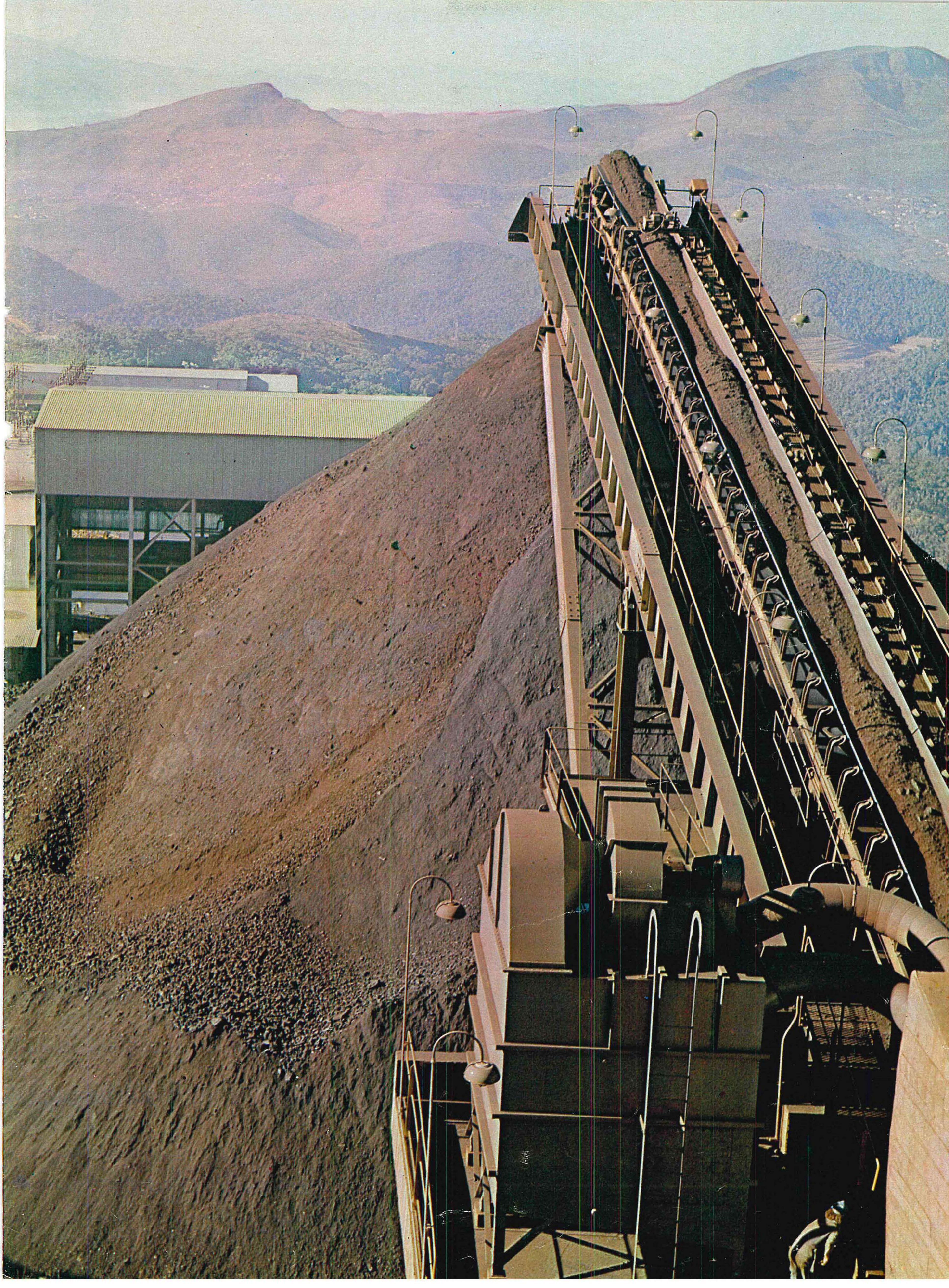
Above photograph shows a Brazilian ore ship at a Rio de Janeiro terminal taking on iron ore. With the discovery of new iron ore deposits in the area known as "Serra dos Carajás", Brazil's iron ore wealth may well double or treble.

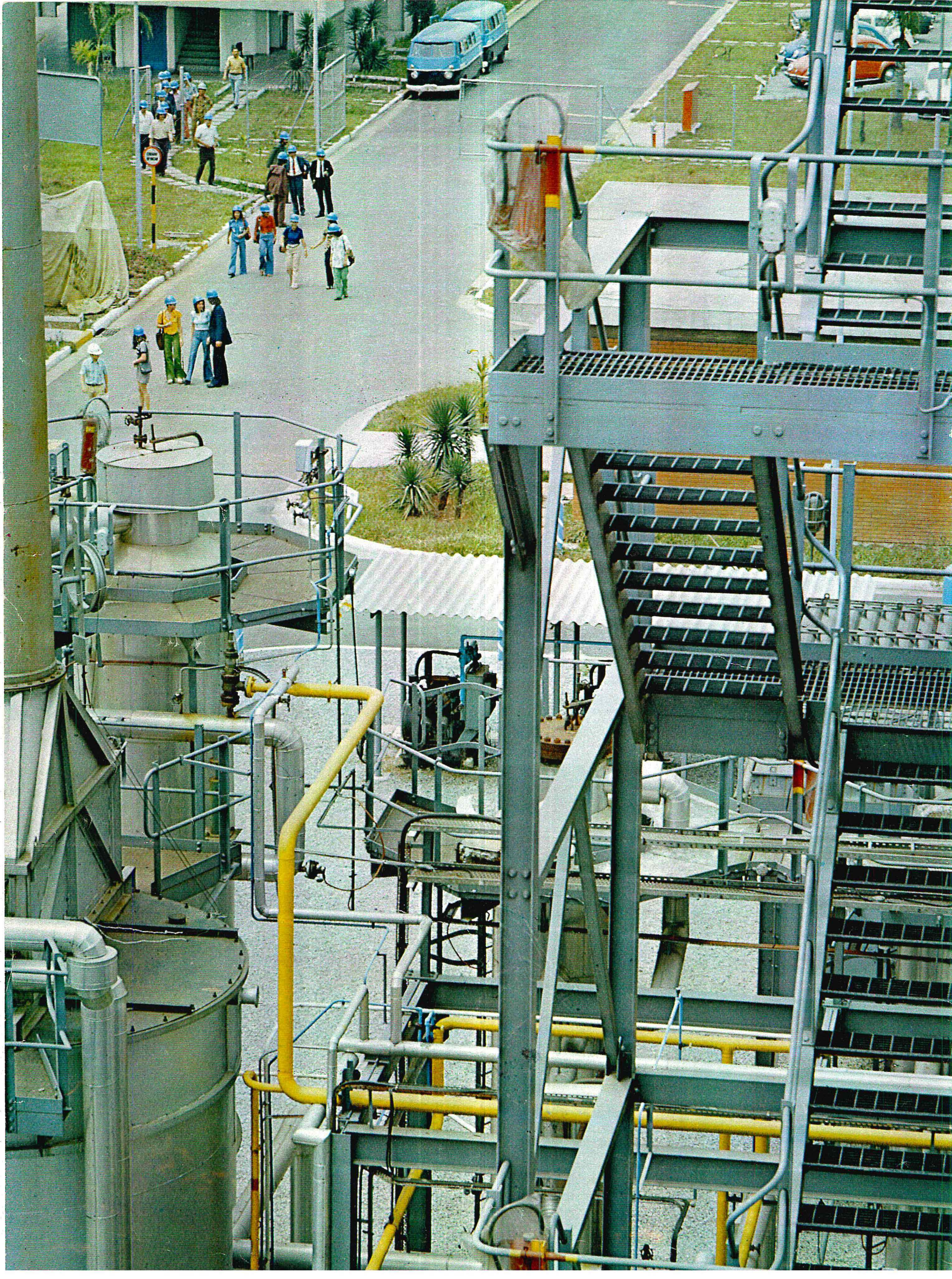


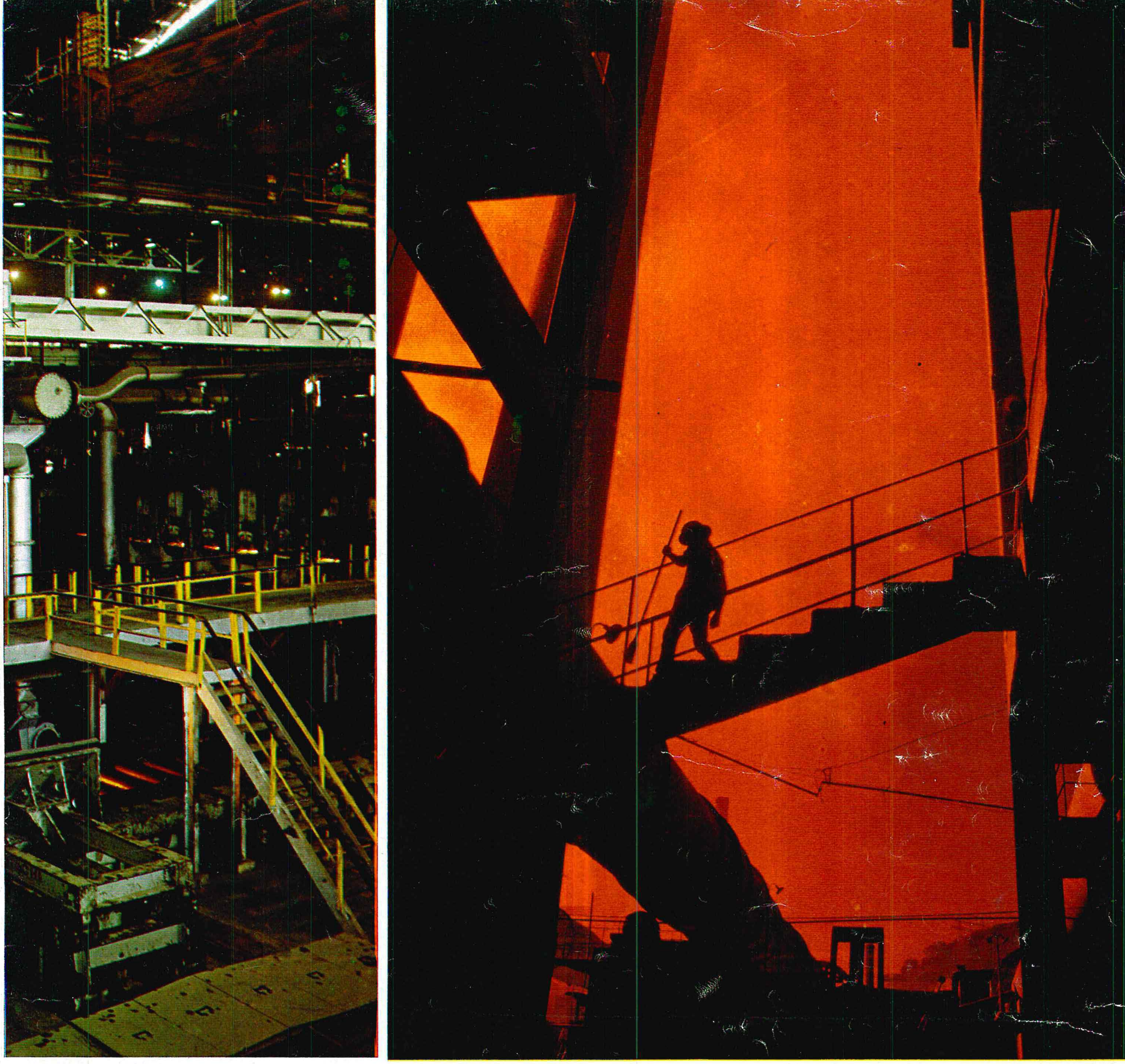
Brazilian exports of iron ore to double within the next five years

ACCORDING to the Second National Development Plan, Brazil's iron ore production will increase from a total of 60 million tons in 1974 to 138 million tons by the end of this decade, while exports of iron ore will rise from 44 million tons in 1974 to 98 million tons. At the same time, investments in nuclear minerals research will be increased by 117 per cent, compared with 1974 level, to reach 600 million cruzeiros in 1979. Also in the field of development of the nation's mineral wealth, plans in their final stage of elaboration will result in a non-ferrous metals industry, including the establishment of several companies for exploration of copper, zinc, aluminum, lead and nickel. According to the Minister of Industry and Commerce, Severo Gomes, the Government's decision to transform "Consider" (National Council of Steel Industry) into a National Council of Non-Ferrous Metals and Steel is an indication of the Government's intention of bolstering this important sector.

All national ports handling ores have undergone, in recent years, total remodeling and several have been completely automated.







the Usiminas and the Cosipa grow into giants. Brazil will be self-sufficient in steel production at 1977.

STEEL being basic to our industrial establishment, it must be produced as cheaply as possible. This the plants are striving to achieve through production in quantity. SIDEBRAS is determined to see our steel plants grow into giants, the ones in course of expansion and the new ones to be built. Among the latter, the first one will be in the state of Espírito Santo, near the Port of Tubarão, already named The Tubarão Steel Company, which is scheduled to produce three million tons of steel bars, almost double the present output at Volta Redonda, the site of the National Steel Company, at present the largest in this country. During the second stage, after being inaugurated, Tubarão is expected to turn out six millions tons annually — this by 1980, subsequently, through planned expansion, reaching a 12-million-ton production! Associated with the Tubarão project are Kawasaki Steel of Japan and Finsider of Italy.

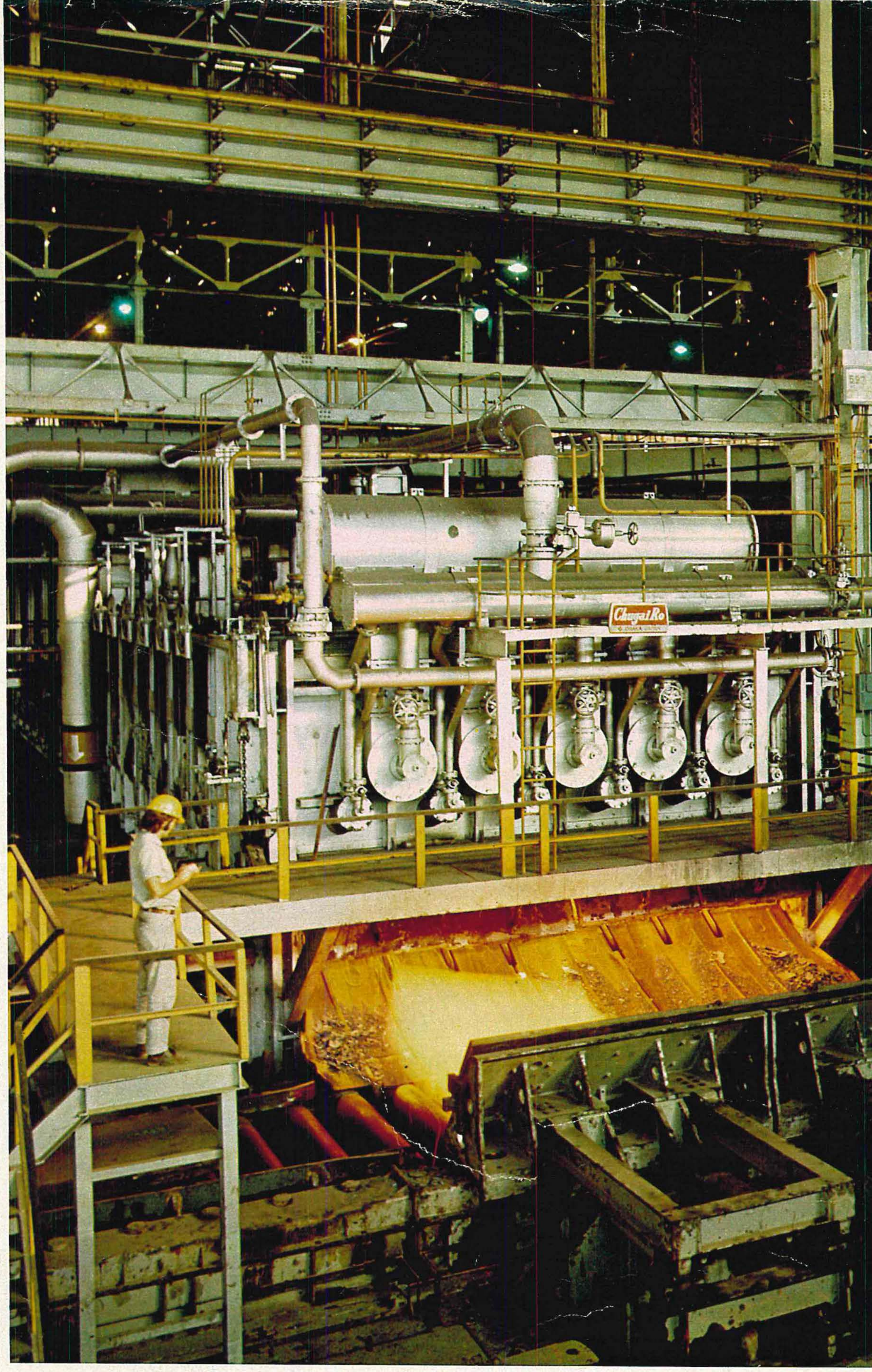
THE other grand project will be at Itaqui, in the state of Maranhão, utilizing the vast iron ore deposits of the Carajás mountain range. Negotiations currently under way with Nippon Steel and other international steel corporations anticipate an annual output of this new plant to reach four million tons of steel during the initial stages of operation, envisaged for 1980, and at least 16 million tons during the following decade.

The locations chosen for both of these new giant plants are not the traditional sites of our steel industry. This is emphasized by SIDEBRAS desire to correct previous concepts and, moreover, to place plants where natural resources warrant them. The multiplier effect of both the Tubarão and Itaqui plants, insofar as job opportunities and other considerations are concerned, will profoundly affect the economies of the states of Espírito Santo and Maranhão.

The anticipation of practically guaranteed foreign markets for Brazilian steel is the third and most relevant reason and justification for SIDEBRAS presence in the field of steel production in Brazil.

The developments now under way and those that may arise in respect of our steel industry may easily be traced to the role of SIDEBRAS, the holding company, and its relationships with international steel interests. However, in all agreements with foreign companies, the decisive voting stock majority will always be Brazilian.

In 1946 the National Steel Company ushered in a new era. From then on Brazilian steel production kept on expanding steadily



At same time that new and great steel plants are installed in the country, the National Steel Company

BRAZIL'S national policy toward steel production, as clearly expressed in the Second National Development Plan, calls for priority action to meet the growing internal demand and exploit favorable opportunities abroad by exporting steel made in Brazil. At present Brazil has to import about 30 per cent of steel products to satisfy domestic demand. Within the next two years Brazil should reach a favorable balance in production and demand. Thereafter, by continued production expansion Brazil expects to enter the international scene, as an exporter.

In the case of Tubarão Steel Company, for instance, the Brazilian Government participates with 51 per cent of the capital, while Kawasaki of Japan and Finsider of Italy share in the remaining 49 per cent of the subscribed capital on equal basis. Furthermore, both foreign participants have undertaken to place one third of the new plant's production in their respective countries. This binding obligation of foreign participants ensures Brazil's guaranteed exports of steel against foreign exchange receipts calculated in hundreds of millions of dollars.

IN addition to promoting national steel industry through fiscal and technological participation of foreign interests, SIDEBRAS encourages private Brazilian steel manufacturers. Already resolved is the assistance SIDEBRÁS is going to extend to the Mendes Junior Steel project which is going to install a plant in Juiz de Fora, state of Minas Gerais, with an initial annual capacity of 1.2 million tons. The government's participation in this, as in all private enterprises, will be that of a minority shareholder.

As the holding company, SIDEBRAS strives to establish new and giant steel plants to ensure supply and satisfy ever growing domestic demand. It is also deeply concerned with plants already existing in Brazil, their problems and expansion needs.

Presently, SIDEBRAS is busy implementing the National Steel Plan stipulated in the Second National Development Plan which envisages a total production by 1979 of 22.3 million tons. Since plant expansion is a continuous process in which newly installed equipment starts producing from the start, the total installed capacity of a plant must start producing increased outputs accordingly. Estimates of the current National Steel Plan indicate that as of early the next decade steel production in ingots will increase from 8.3 million tons annually to 9.3 million tons, and rolled steel from 11 to 13 million tons, an increase from three to six million tons in sheets (second phase at Tubarão) and another four million tons at the Itaqui plant, a total of 32.3 million tons.

TO attain this substantial increase in steel production, financial investment of first magnitude will be required. The overall expansion cost is estimated at 77 billion cruzeiros (nearly 10 billion dollars), or close to a billion cruzeiros per month from now till the end of 1980.

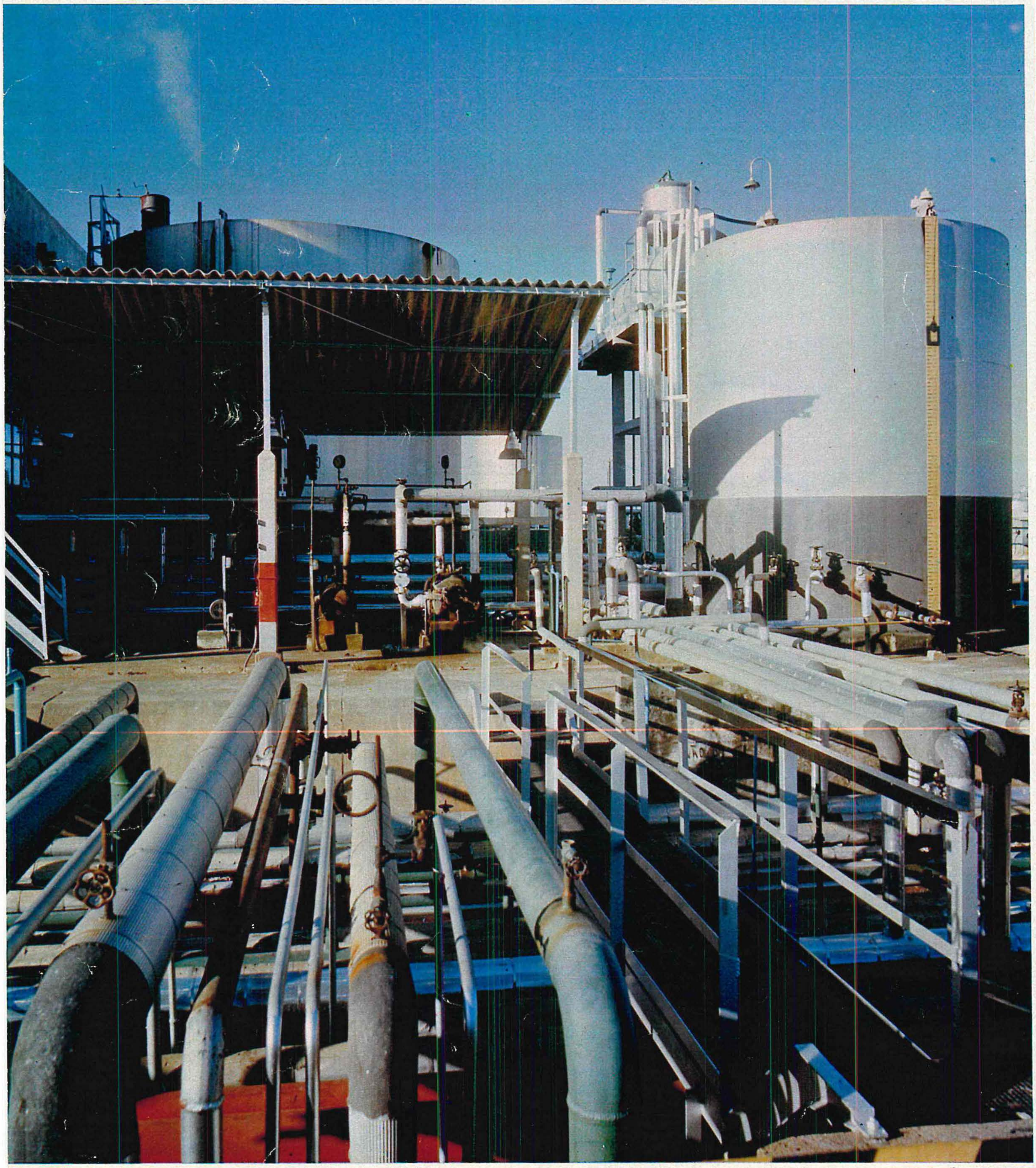
A part of this huge investment will come from loans contracted abroad; the remainder will be financed by Brazil's own resources and funds derived from the state-operated steel plants.

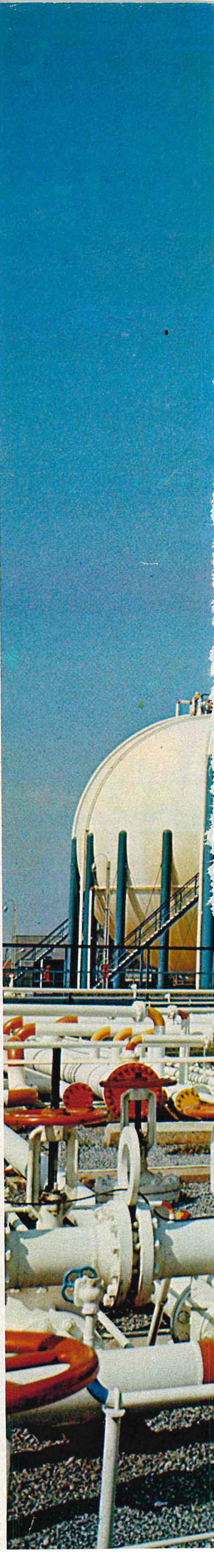
SIDEBRAS is a government established entity charged with the execution of the national steel policy. It may be likened to a holding company that disciplines and coordinates all activity in this particular field. Through solutions of many-faceted problems, SIDEBRAS, within only a year since its establishment, has succeeded in reformulating structural aspects of our steel industry. The following three-pronged action by SIDEBRAS merit special mention: new concepts as to expansion procedures; geographical location considerations and a practically guaranteed foreign outlet for our anticipated surplus production.

ALUMINI

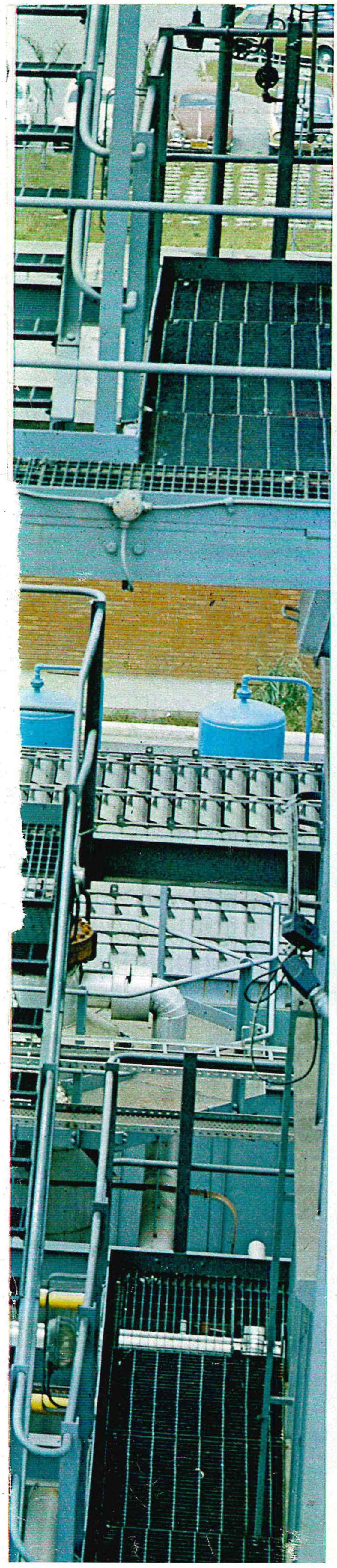
Brazil's petrochemical industry is due for spectacular expansion in the next few years

THE Government is finalizing studies for the establishment of a third petrochemical center either in Rio Grande do Sul or Paraná. Likewise, plans are well advanced to double petrochemical industrial output in São Paulo. "Petroquímica União", a Petrobrás subsidiary in São Paulo, is the principal producer of raw materials for the vast São Paulo industrial establishment. However, it's in Bahia where Brazil's largest petrochemical industry produces annually 863,000 tons of various petroleum derivatives and byproducts. The Bahia establishment is also being expanded. Altogether, with the establishment of new petrochemical industries in southern Brazil, the nation's output in petrochemical products will make Brazil self-sufficient by the end of the decade in chemical fertilizers, with a profound effect on our balance of payments. At present only 10 per cent of these products are being produced in Brazil. The rest has to be imported. In regard to ethylene, the basic material for manufacture of plastics, the Brazilian production already is in the neighborhood of 300,000 tons annually. As soon as the new Petrochemical Complex in Camaçari (Bahia) becomes operational — within four years, it is expected — it will create 40,000 new job opportunities.





Above, a partial view of the asphalt factory of Petrobrás in Fortaleza which is being expanded. At right — Gasbrás, a petrochemical complex in Cubatão, São Paulo. Only in 1974, seven billion cruzeiros have been invested in the construction of the new Petrochemical Complex of Camaçari, in Bahia.



The Government's policy in regard to industrial development, including the all-important petrochemical sector, is aimed at guaranteeing self-sufficiency and surpluses for export. The photos show some of the national petrochemical installations.

Until 1979 Brazil will become self-sufficient in fertilizers and cellulose with surpluses for export

CHEMICAL industries and industries connected with petrochemical products are among the priorities established by the Second National Development Plan for the advancement of technological industries towards which will be employed already existing technologies with new areas to be created for the solutions of problems touching upon national interests. With these and other measures indicated in the Plan for the industrial establishment, it is expected that by the end of the decade Brazil's industrial enterprise will be vastly strengthened in conformity with the most modern concepts and on a competitive basis with industrial outputs world-wide. This particular phase of development is aimed at expanding, manyfold, our present industrial capacity with view to substitute basic imports with our own products. This important program will absorb about 300 billion cruzeiros in investments during the next five years. In addition to the Petrochemical Program and the National Steel Plan, already being executed, other vital projects will be getting under way shortly, such as self-sufficiency in fertilizers, paper and cellulose, the exploration of non-ferrous metals and other basic materials including pharmaceutical ingredients.

Before the end of this decade, Brazil will be one of the world's largest producers of cellulose

THE Second National Development Plan foresees an 85 per cent increase in cellulose and 28 per cent in paper production. Considering a world decline in cellulose production, the Government's plans call for a vast program of reforestation. The objectives of these plans are to transform Brazil, within the next few years, into one of the world's most important producers of cellulose for the manufacture of superior quality paper. In support of these plans, "Aracruz Celulose S.A.", located in Linhares in the state of Espírito Santo, is scheduled to become operational in 1977. In recent years an intensive program of eucaliptus planting has been pursued in that region. By 1978, the company should be producing 400,000 tons of cellulose annually.

In 1974 Brazil manufactured about 150,000 tons of newsprint, little more than 40 per cent of its need. Presently there are about 200 paper mills and cellulose factories in Brazil, the most important of which is Klabin, in Paraná. The combined production in 1974 reached 2.1 million tons of different kinds of paper and cardboard, exceeding by 24 per cent the production of the previous year.

The pictures show various aspects of Klabin, in Paraná, the largest paper producer in Brazil. During the next five years, national and international resources will be mobilized for the establishment of one of the world's major industrial complexes in the field of cellulose and paper production.

The country with the biggest economic boom in Latin America has just opened its stock market to your investments.

All you need to do to enter it is to make contact with one of the brokerage houses which are members of the Rio de Janeiro Stock Exchange or with its international division.

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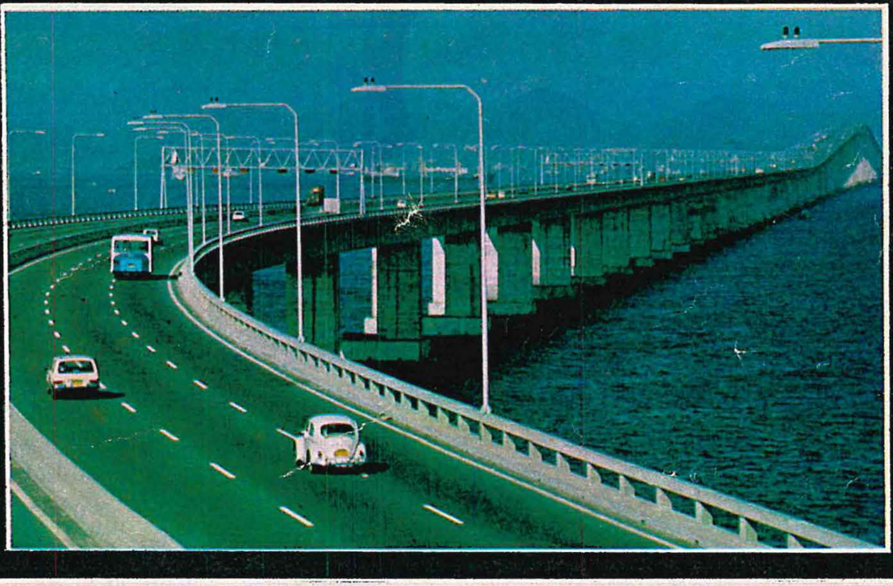
THE ROADS TO PROGRESS AND DEVELOPMENT

TEN years ago there were 17,000 kilometers of paved roads in Brazil. Today there are 75,000 kilometers of surfaced roads and highways. By the end of the Second National Development Plan (1979) Brazil will have no less than 100,000 kilometers of paved roads. During the period under review, Brazil has become the undisputed leader in this field in Latin America, with technical methods comparable to those applicable in the most advanced nations of the world. Brazil presently exports its know-how in road construction and surfacing to several countries of the Americas and Africa.



Running through the amazonic jungle, the Manaus-Porto Velho (above) will connect Brazil with Central America, United States and Canada by paved roads, at 1979. At high, the monumental bridge Rio-Niterói, a part of the BR-101.

During the Second National Development Plan the paved network of roads in Brazil will be increased by 21,000 kilometers

OBEDEÇA À
SINALIZAÇÃO
PUNTA DEL ESTE 636 Km
MONTEVIDÉU 506 Km
BUENOS AIRES 738 Km

Above, from left to right, the road Rosário-Livramento, that connects Brazil with Uruguay and

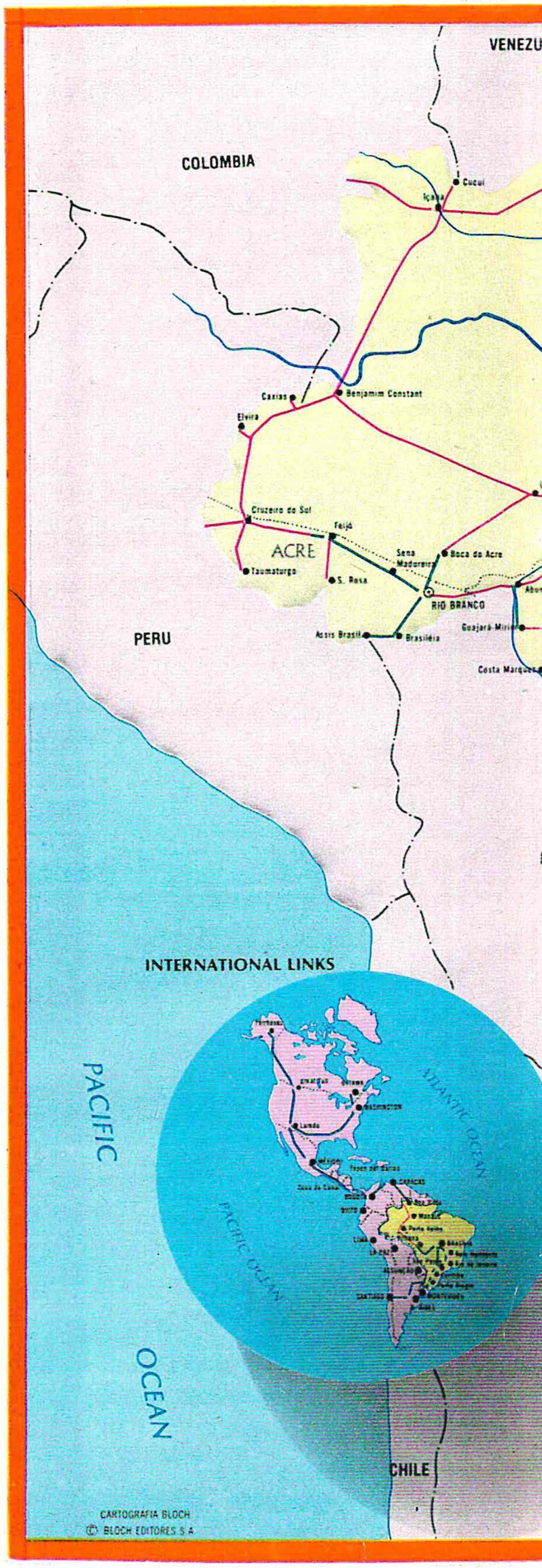
The free-way between Porto Alegre and Osório, in the State of Rio Grande do Sul, is one of the best roads of Brazil and is very important on the economy of the South of the country.

THIS is due to the fact that in recent years road construction in Brazil has been planned on a nation-wide concept and as a development priority, measured in terms of contribution of each individual project toward overall national progress.

Meticulous previous studies as to technical and economic aspects, time factors in general programming, considerations of funding of each project before its launching and a host of other surveys and studies have resulted in the establishment of road building programs and their final execution, in sharp contrast to the past, when a road was started and not finished even years later.

The prevailing level of planning and programming has permitted the Ministry of Transport, through the National Department of Highways, to link all Brazilian state capitals (with the exception of Rio Branco — Manaus) by surfaced roads; put asphalt on the Brasília — Belém strategic highway and throughout the north-eastern network; open up the Trans-Amazon highway; consolidate the Export Corridors and realize an old dream of building roads that lead, along our enormous frontiers, into neighbouring countries.

Admittedly, much still remain to be done — and is being done — in the vastness of our national territory. Before the end of the Second National Development Plan (1979), the paved network of Federal roads and highways will be increased by 21,000 kilometers, in addition to 15,000


VENEZU
COLOMBIA
Cucuí
Içana
Benjamim Constant
Caxias
Elvira
Cruzeiro do Sul
Feijó
ACRE
Taumaturgo
S. Rosa
Sena Madureira
Boca do Acre
RIO BRANCO
Assis Brasil
Brasiléia
Guajará-Mirim
Costa Marques
PERU
INTERNATIONAL LINKS
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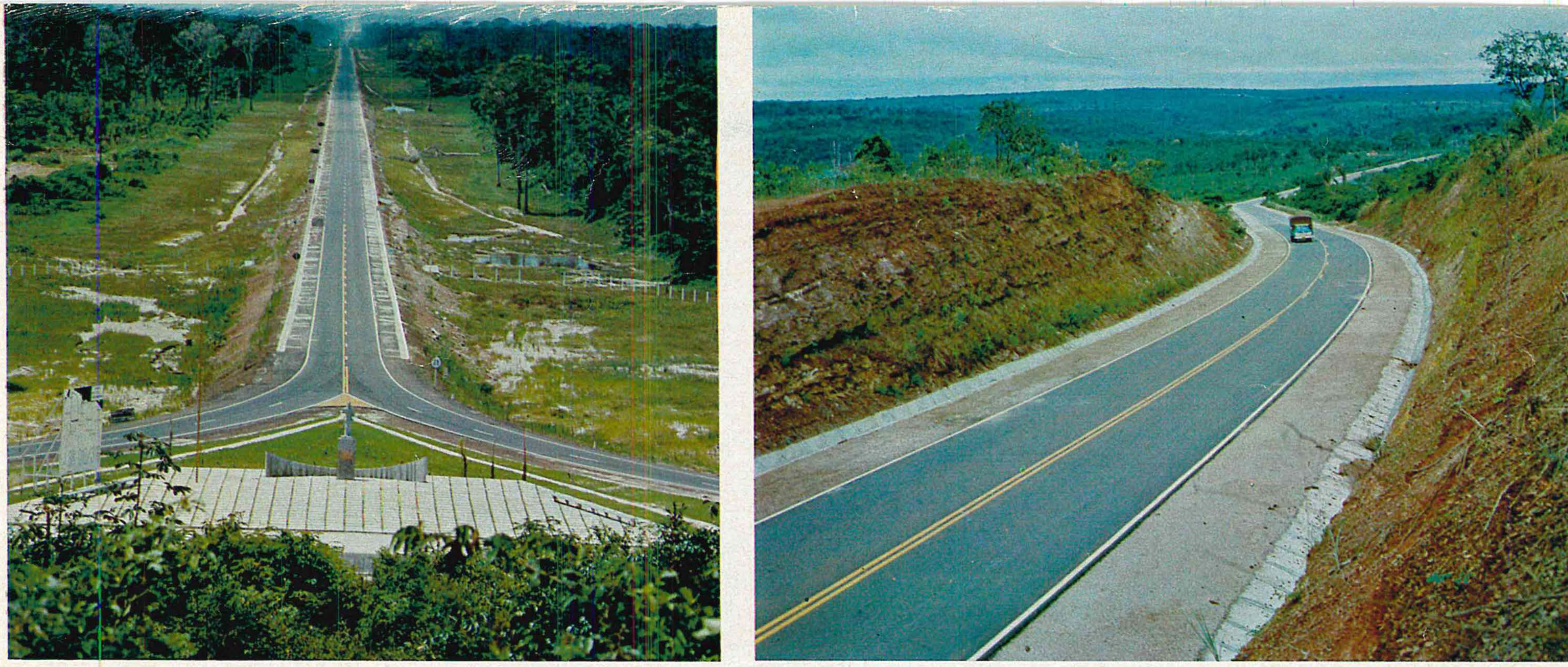
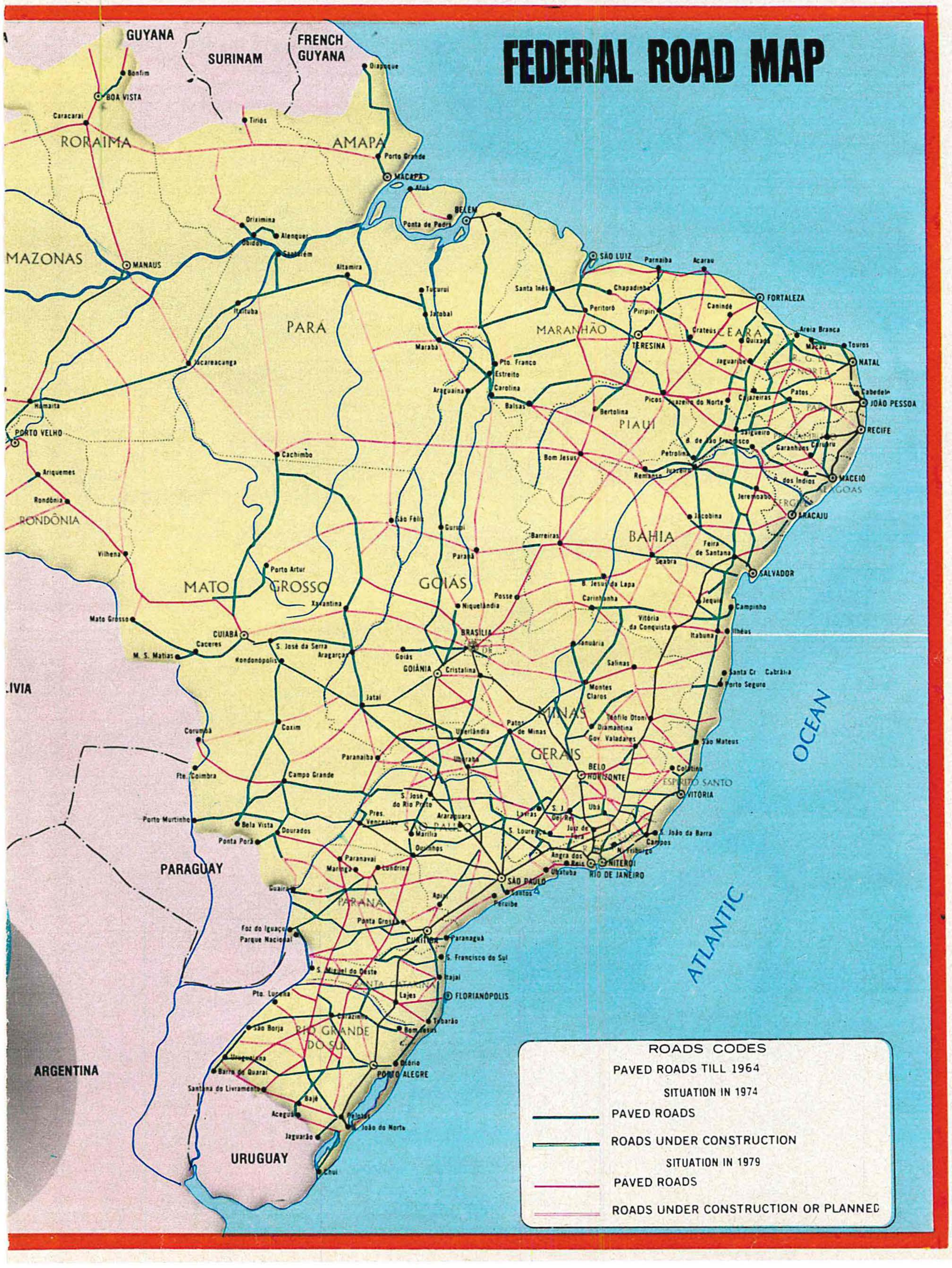


Argentina; the Belém-São Luís, that connects the North and the North-East; and the Belém-Brasília, 2.100 kilometres of asphalt till the Amazônia


FEDERAL ROAD MAP
GUYANA
SURINAM
FRENCH GUYANA
RORAIMA
AMAPÁ
MAZONAS
PARÁ
MARANHÃO
PIAUÍ
CEARÁ
BAHIA
GOIÁS
MATO GROSSO
RONDÔNIA
MINAS GERAIS
ESPÍRITO SANTO
PARANÁ
RIO GRANDE DO SUL
BOA VISTA
MACAPÁ
BELÉM
MANAUS
SÃO LUIZ
FORTALEZA
TERESINA
NATAL
JOÃO PESSOA
RECIFE
MACEIÓ
ARACAJU
SALVADOR
PORTO VELHO
CUIABÁ
BRASÍLIA
GOIÂNIA
BELO HORIZONTE
VITÓRIA
RIO DE JANEIRO
NITERÓI
SÃO PAULO
CURITIBA
FLORIANÓPOLIS
PORTO ALEGRE
LIVIA
PARAGUAY
ARGENTINA
URUGUAY
ATLANTIC
OCEAN
ROADS CODES
PAVED ROADS TILL 1964
SITUATION IN 1974
PAVED ROADS
ROADS UNDER CONSTRUCTION
SITUATION IN 1979
PAVED ROADS
ROADS UNDER CONSTRUCTION OR PLANNED

kilometers of newly built roads, which reflects the enormous task attributed to the National Department of Highways in the overall program of the Ministry of Transport. During this period the surfacing of BV-8 (Cuiabá-Rio Branco-Manaus), bordering Venezuela, will be completed, which will make it possible to start by car from Brasília or any other point of this country and travel, by road, to Canada via the Pan-American Highway. Likewise, scheduled for completion is the Northern Perimeter Highway and vast improvements on north-eastern networks which give access to Brasília. Facilities of all-important links between São Paulo-Curitiba and Rio de Janeiro - Juiz de Fora will be doubled. São Paulo - Curitiba will have a two-lane highway in each direction; Rio de Janeiro - Juiz de Fora will have a brand new highway which will shorten the distance by 50 kilometers and allow for express traffic.

CURITIBA-Florianópolis-Porto Alegre, and Porto Alegre-Novo Hamburgo will be linked to north-eastern networks, as well west-central and east-central networks. In the south-eastern regions many roads will be surfaced. The huge investments originate from the National Department's own budgets and receipts (from toll roads and highways), internal and external financing and Special Programs funding. During the next two years these investments in Roads to Progress will exceed five billion cruzeiros per year.

TAKRAF VEB
KRANBAU
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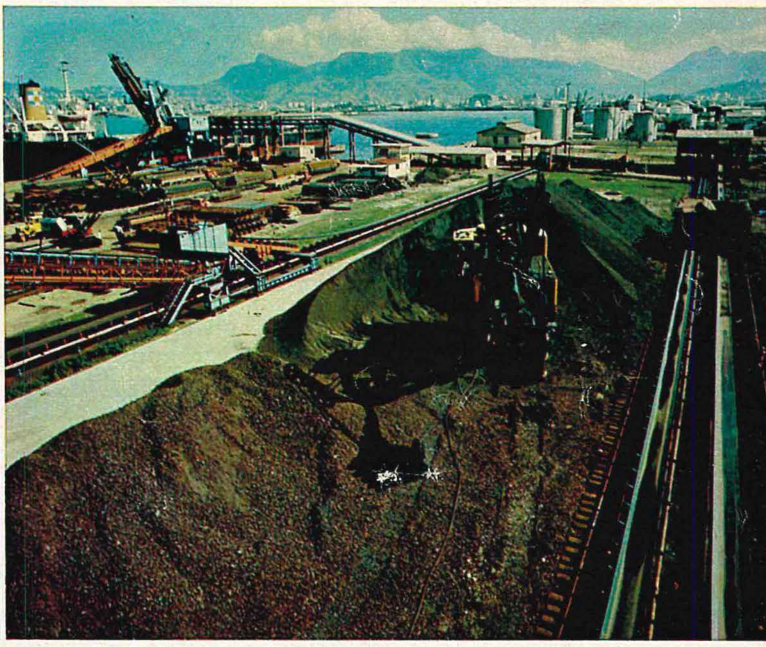
PORTS

ARE BEING READIED FOR THE YEAR 2,000



The Port of Rio de Janeiro, one of the principal gateways to and from Brazil, occupies a distinguished position in the Second National Development Plan. The Plan provides for the Port of Rio to be equipped with the most modern technique in loading and unloading procedures.

EXIT gateways for Brazilian exports, the ports require total reequipment and improvement in their operational capacities in order to serve adequately the ever increasing Brazil's export trade. The Second National Development Plan, where it deals with ports, is primarily concerned with providing these export outlets with the most modern equipment, to put them on par with the best and most efficient presently existing in the world, ensuring thus rapid loading and unloading facilities. Top priority in this respect has been allocated to ports serving the so-called export corridors, such as Rio de Janeiro, Rio Grande, Paranaguá and Santos. In north-eastern Brazil this applies principally to the port of Recife and the new Suape port, also in Recife, which handles the bulk of sugar exports, and the Malhado Port in Ilhéus, in Bahia, handling cocoa exports.

In Rio de Janeiro, the Caju pier is being extended to a length of 350 meters dotted with powerful cranes. A new port is under construction in Sepetiba, state of Rio de Janeiro, an auxiliary port which will handle a large part of iron ore loadings at present burdening Rio de Janeiro facilities.

GATEWAYS FOR WORL

The Second National Development Plan, the basic goal of President Geisel's Government, dealing with foreign trade strategy, puts major emphasis on exports which "assume outstanding importance related to the balance of payments."

The two categories of our exports — manufactured goods and such bulk commodities as ores and non-traditional agricultural produce will continue receiving government guidance and encouragement.

Our traditional exports of coffee, sugar, cocoa and soybean are being supported by the Government in respect of prices, warehousing and transportation facilities.

In the meantime, new possibilities are in the offing, as well as new challenges. The Government and businessmen, side by side, are seeking solutions, means and ways to confront international markets in order to maintain our rising rhythm of economic development. Our so-called "Export Corridors" will be fully operational during the next five years and so will be Brazil's vast foreign network to introduce and sell our exportable goods on international markets.

The gateways of progress ● To facilitate the fulfilment of the Second National Development Plan, the Government is paying considerable attention to the program of launching and completing Export Corridors. For the time being, four major ports have been selected: Vitória, Santos, Paranaguá and Rio Grande to serve as terminals for the Corridors. Geographic and economic conditions make each of these ports a natural gateway for Brazilian exports because the areas they serve and the economic development of these areas are ideal for the Export Corridors. Additionally, the export terminals for sugar in Recife and Maceió, the cocoa terminal at Ilhéus and Areia Branca for salt exports make up our gateways of progress. But the first stage of implementing our Export Corridors will be focussed on our South-Eastern and Southern ports.

The Vitória—Capuaba complex

● A loading terminal at Vitória, state of Espírito Santo, will handle iron ore and steel products with the construction of a 540-meter-long pier and a 12-meter draft. The installations will consist of warehousing for steel products, linked directly to highway-railroad-river transportation systems, another facility for frozen produce; a grain silo with a capacity for 30,000 tons. Totally equipped, this complex will complete the Vitória—Capuaba Corridor which will serve a hinterland area consisting of the States of Goiás, Minas Gerais and Espírito Santo, supplemented and supported by BR-262 highway and the Federal and Vitória—Minas Gerais railroad networks. Additionally, to complete the complex, studies are well advanced for the establishment in Vitória of dockyards for ship repair, in cooperation with multinational interests. Ships repair facilities in this area will be utilized by enormous ore ships (50 million tons annualy) and super-tankers which frequent the Port of Vitória.

120 million dollars for Santos

● Improvements in the Port of Santos will cost 120 million dollars, including brand new installations on the left bank of the Santos estuary. Projects for Santos have already been concluded. The World Bank will finance 45 million dollars of the estimated total. The estuary's left bank development program provides for a silo with a 100,000-ton capacity for corn, totally mechanized for loading and unloading; a container terminal with an access for railroad traffic. In accordance with the Export Corridors program, already built is a terminal for liquids on the right bank of the estuary where dredging operations permit docking of vessels of up to 60,000 deadweight tons. A separate terminal for sugar and grain loading, and another one for chemical products figure prominently on the blueprints for the new Port of Santos, gateway to the state of São Paulo and the world.

Paranaguá transformed ● First it was coffee that began the transformation of the hitherto sleepy Port of Paranaguá. From Northern Paraná coffee exports, Brazil traditional source of foreign exchange, trickled through Paranaguá, then steadily grew in volume. Now it's soybean and corn. Experts predict that the 1975-'76 harvest of these commodities will supercede all expectations, with soybean exports occupying second place (after sugar). A silo at Paranaguá with a 100,000-ton capacity and totally mechanized is being built to facilitate an extraordinary increase in grain exports. The growth of the Port of Paranaguá and its increasing significance as a gateway for one of the most important Export Corridors prompted the Ministry of Transport, via the National Department of Ports and Navigable Waterways, to undertake a geo-physical survey of an area measuring 60 million square meters.

The great southern gateway ● All exportable agricultural production of Rio Grande do Sul and western Santa Catarina will flow through the Port of Rio Grande, now being transformed into a super-port. For example: a privately-owned terminal (it belongs to a wheat and soybean cooperative) already has facilities to handle 1,200 tons of grain per hour, while pier approaches are being dredged to a 12-meter depth.

The existing silo has been enlarged to hold 55,000 tons of grain. The access channel to the port has been dredged to a depth of 14 meters, permitting passage of vessels of up to 60,000 tons.

The Second National Development Plan provides for the construction in the Port of Rio Grande of special terminals for different products and commodities such as soybean, wheat and chemical fertilizers. A new terminal for beef exports, another to receive and dispatch containers will be completed well in advance of the 1979 deadline.

Expansion of port facilities in figures ● In addition to priority projects envisaged by the Second National Development Plan for the principal ports, statistically expressed the objectives are as follows:

4,770 meters of docking facilities;
54,500 square meters for warehousing of general cargo;
19,500 square meters of roofed storage space;
270,000 additional tonnage in silos and warehouses for grain;
26,500-ton capacity for deep-freeze products;
10,000 meters of access roads to port areas and installations;
4 floating cranes of 100-ton capacity each;
2 floating cranes of 250-ton capacity each;
20 tugboats.

Thus, the nine billion eight hundred million cruzeiros budgeted for the ports will represent a solid investment in our Gateways to the World that should pay handsome dividends to the nation in vastly increased exports.

OF BRAZIL
D TRADE

Billions of cruzeiros budgeted for the ports should pay handsome dividends to the nation in vastly increased exports.

Ziegelmeyer, Pimentel

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Lloydbrás goes a long way.

CIA. DE NAVEGAÇÃO LLOYD BRASILEIRO – BRAZILIAN SHIPPING COMPANY

Studies and *research conducted by GEIPOT (Brasília's headquarters) embrace all national territory and all Brazilian means and forms of transportation. GEIPOT follows metropolitan requirements in its studies of urban transportation facilities. Above, ore exports. Below, a gateway to exports.*

IT'S A REAL CHALLENGE TO PLAN TRANSPORTATION SYSTEMS

AT the present stage of Brazil's development when our industrial establishment with its advanced technology is being consolidated and while our agricultural frontiers are being steadily extended, Brazil's national transportation systems assume paramount proportions of cause and effect. In this vital area the National Transport Policy, as defined by the Federal Government for the next five years (1975-1979), consistent with the basic principles and norms of transport systems in national economy, has, as its main objective, a definitely outlined plan to bring Brazilian transport facilities in line with the overall national economic expansion, correcting in the process certain distortions and inconsistencies of the past.

The Second National Development Plan, cognizant of the problem and a realistic approach to solving it, provides for the following measures to be adopted and executed with top priority:

— Improvement of the existing infrastructure in transport facilities and the creation of alternative routes at minimum cost for maximum utilization;

— the establishment of an infrastructure indispensable to national economic expansion and development always considering the expectant increase in demand and avoiding the accumulation of projects with but slight possibilities of being realized or of comparatively minor importance. This in order to avoid immobilizing available resources which may be applied to a better advantage elsewhere;

The present rate of growth and realistic estimates for the coming years have caused the Government to apportion for the General Programs of the Ministry of Transport, during the five-year period of the Second National Development Plan, investments totalling 136 billion cruzeiros, in order to avoid bottlenecks and inadequate means to move great volumes of industrialized and agricultural products.

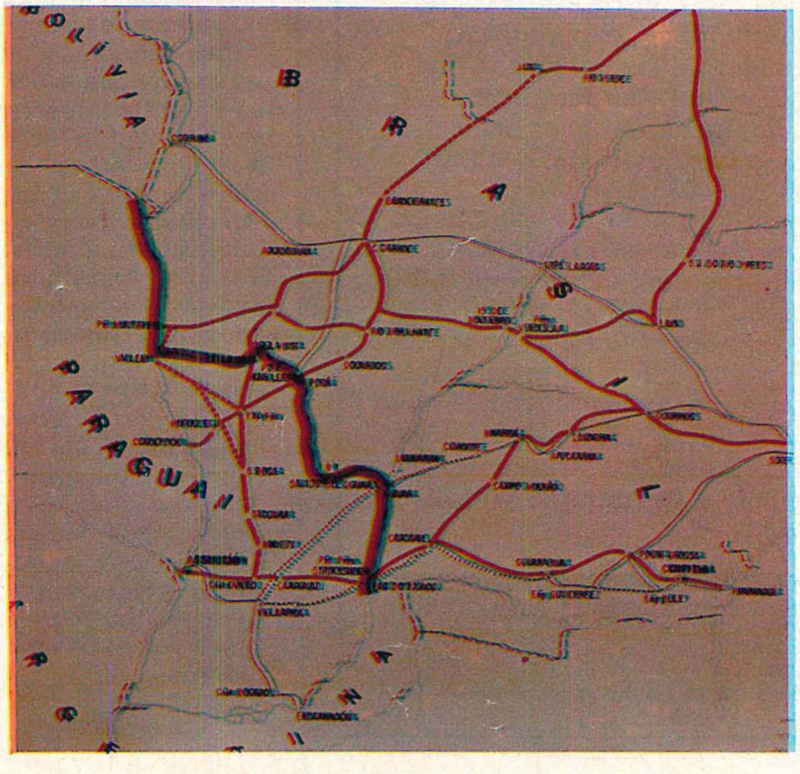
As a public utility company, linked to the Ministry of Transport, the Brazilian Transport Planning Company — "GEIPOT" — is primarily concerned with surveys and in-depth studies indispensable to adequate planning and execution of the nation's transport systems. The company, engaged in studies and planning for the Government, is, consequently, directly related to activities pertaining to and constituting part of the Planning Secretariat of the Presidency of the Republic, aiding the Government in its vast research and study programs and their realization.

The company has been specifically entrusted by Transport Minister Dirceu de Araújo Nogueira with study of alternatives to resolve certain conflicting problems facing our transport systems, in order that trade and commerce be best served and the flow of exports maintained.

In an attempt to establish new criteria of transport planning, the Company is paying special attention to elaborating Operational Plans of Transport, based on the Company's accumulated experience in developing transport programs. The Company is essentially concerned with meeting and constantly improving the increasing demand for transport facilities in selected areas of especially heavy traffic.

THE areas thus selected are essential to transporting products of the steel industry, ores, soybean and wheat, sugar, coffee, fertilizers, cement, salt, petroleum and petro-chemical products, meat, lumber, rice, paper and cellulose, among others, always with view to providing efficiency at low cost.

Following its *policy of friendship and cooperation with its neighbors, Brazil is integrating its own system of transport with that of Paraguay.*



The Operational Plans of Transport require, necessarily, individual and separate studies of each sector, to identify deficiencies and/or inadequacies which may exist and to propose corrective measures in order to provide and obtain maximum utilization of the means of transport, simultaneously investing in new projects. All measures and solutions affecting these studies are influenced by considerations ranging from purely administrative factors to cost of transportation, operational aspects of a project and infrastructural characteristics; analysis of efficiency levels of transport and stockpiling or warehousing facilities at points of departure and destination.

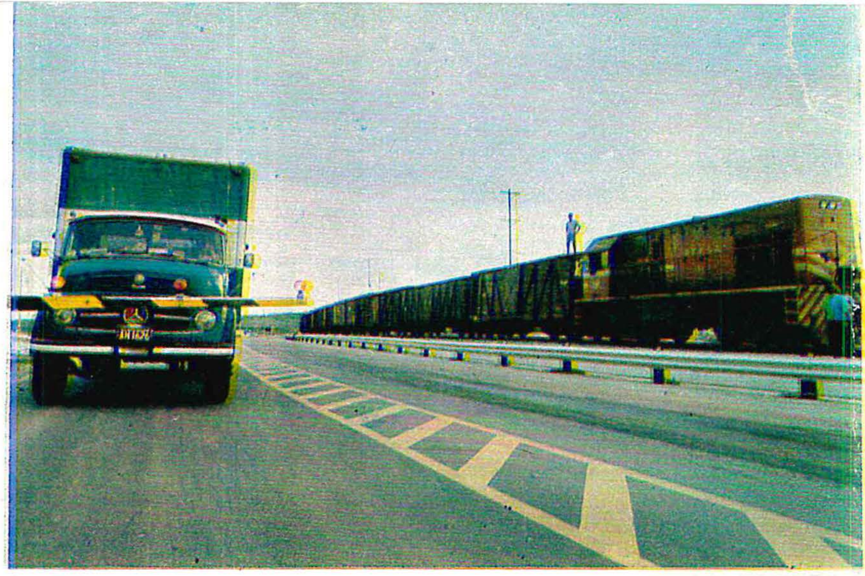
The sum total of all the information and pertinent data, resulting from a maze of studies and conclusions derived therefrom for the elaboration of Operational Plans, permits the Company to formulate definite plans for specific regions which, in turn, result in an Integrated Plan of Transport for the country as a whole. The main objective of these studies and surveys is to ensure that the Integrated Plan of Transport be finalized and ready for presentation to the Government not later than December of 1977.

BECAUSE of increasing national production — by 150 per cent before the end of 1979 — and steadily accelerating volume of exports, which are the Government's principal objectives, the Brazilian Transport Planning Company must keep abreast of these developments.

HIMMERLAND

PARANAGUÁ, the port which exports the bulk of Brazil's soybean.

The Port of Paranaguá (geographic coordinates: 48° 31' Longitude West, 25° 30' Latitude South), in the State of Paraná, is currently one of the most important and privileged Brazilian ports. It is handling 25 per cent of all exportable grain produced in Brazil. This status and activity have been reached within the last three years. The Federal and Paraná state governments have chosen Paranaguá, in addition to three other Brazilian ports, to serve as the gateway of the national export program, denominated "The Export Corridors". The results of this happy choice became rapidly evident. Paranagua's formerly obsolete equipment has been replaced with the most modern loading and unloading facilities; docking facilities have been extended to 2,606 meters and warehousing is capable of handling up to 265,000 tons of commodities with provisions to duplicate this capacity within the next few years. With the new equipment, 3,000 tons of grain may be loaded hourly. In Brazil, the spectacular growth and development of the Port of Paranaguá is being taken for granted. Yet, statistical data reveal the reality. In 1967 Paranaguá exported 775,000 tons of goods; seven years later the volume had reached three million tons. At this rate of development, it would not be immodest to suggest that the Port of Paranaguá will be well prepared for the year 2000!



GEIPOT adjusts *transport systems to the interdependence of high*

Specialists, technicians and accompany the entire

AS an assessor to the Ministry of Transport, the Company is also deeply concerned with the so-called Export Corridors towards which the Government, under the Second National Development Plan, will invest 12 billion cruzeiros in projects aimed at improving and modernizing the ports of Rio Grande (Rio Grande do Sul), Paranaguá (Paraná), Santos (São Paulo) and Vitória (Espírito Santo) and access facilities to these ports. Basically, this special program is designed to utilize the various means of transport — by road and highway, rail and navigable waterways — to reduce the cost and increase efficiency of moving goods from centers of origin to export outlets.

Additionally, the Company is involved in developing the Rio—São Paulo Export Corridor; in programming the uniforming of railroad gauges (about 5,470 kilometers) at an investment cost of 2.6 billion cruzeiros, and the national plan of electrification of railroads (some 4,100 kilometers) to cost 2.5 billion cruzeiros. The Company is also engaged in studies and elaboration of plans for the better utilization of interior waterways and other, more sophisticated, research studies. Within the new structural and operational characteristics of the Brazilian transport systems, their international implications are assuming ever greater relevance for an effectively integrated continental transport system to be achieved by the end of this decade with incalculable benefits for trade and commerce between the Latin American countries and the development of a common market which would become an important contributing factor for the economic development of various countries.

Implementing various agreements between the governments of Brazil and Paraguay, the Brazilian Transport Planning Company is currently elaborating plans for an integrated transport system between the two countries. It is planned to integrate the Paraguayan railroad system called "Presidente Carlos Antonio Lopes" with the Brazilian railroad system; improve navigation facilities on the Paraguay river and its integration with trunk roads. The studies include, furthermore, legal aspects as to customs tariffs at various points of contact between Paraguay and Brazil along their mutual borderline and Paraguayan control posts on Brazilian territory (Santos and Paranaguá).

The execution of projects provided for in agreements between Brazil and Paraguay will, moreover, contribute a great deal, through access facilities, to the construction of the Itaipu Hydro-Electric Plant, the world's largest, a joint enterprise between the two countries on Paraná river. It will generate 12.6 MW of electric power.

IN the area of international consulting services, the Company supervises the elaboration of a project to link by rail Santa Cruz de La Sierra with Cochabamba in Bolivia, pursuant to a technical assistance agreement between Brazil and Bolivia. The rail link to be established will complete the Trans-Continental Railway, connecting the Atlantic seaboard (Santos, in Brazil) with the Pacific (at Arica in Chile), a distance of 3,952 kilometers. The project, once completed, will open up new trade possibilities between the southern countries of the continent. The Company has

ways and railroads and soybean field

researchers of GEIPOT process of Brazilian economy

already been approached for services in other South American countries and Africa.

Urban growth at a rate previously unimaginable, alarmingly increasing motorized traffic, specialization in various economic sectors, non-existence of substitutes for automobiles as means of individual locomotion are but a few factors — and their collateral effects such as increasing numbers of accidents of which the urban populations are victims and the loss of working hours, pollution in its multiple forms, visual efficiency and combustion exhausts — place uncommon burdens on solving urban transportation problems. The problems are, essentially, two-fold: adequate planning of the utilization of available land space and technological development of means of transportation. In the cities in which the movement of its inhabitants is dictated by the necessity of getting to and fro, from home to work and vice versa, the metropolitan authorities must device adequate transportation systems.

The planning and rapid implementation of an effective transport policy in major population centers greatly preoccupy the Brazilian Government. The Ministry of Transport has been dedicating a great deal of attention to complex studies toward resolving these problems in order to remove bottlenecks and render urban transportation facilities more rapid and efficient.

Conforming to the Ministry's definitions and recommendations, the Brazilian Transport Planning Company is currently developing twin projects, consisting of studies and research, planning transportation facilities, compatible with national interests and regional requirements. In addition to its many other tasks and responsibilities, the Company is presently elaborating a Master Transport Plan for the metropolitan area of Porto Alegre, state capital of Rio Grande do Sul, and another Master Plan for the Federal District of Brasília. These are diametrically opposed studies.

THE first deals with a metropolitan area composed of 14 counties whose traffic flow converges upon Porto Alegre, a city of traditional urban characteristics and geographic peculiarities all its own. The second Master Plan embraces Brasília and its satellite towns, of modern design and layout. The Company is fully equipped to cope with projects that differ so profoundly because of its cadre of technicians and specialists with vast know-how experience for use and application in whichever region of the country.

Simultaneously, the Company maintains teams of specialists in research, studies and evaluation of technological innovations in urban transportation and in metropolitan areas newly established by the Government.

It should also be mentioned that the Company, despite of its multiple and pressing activities, is able to develop research of transport problems along with economic development research.

The Company is interested, for instance, in the proper utilization of cargo loads; the industry's vehicular production capacity; the inter-relation of transportation costs of highway traffic and feeder roads and the total impact of these costs upon national economy.

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The Águas Claras mine linked by railroad to Sepetiba terminal at Sepetiba bay is a great source of foreign exchange for the country

IRON ORE

A revenue of millions of dollars

IN July 1973 the ÁGUAS CLARAS MINE, in Nova Lima, commenced its operations increasing by 12 million tons per year the ability of Brazil to export iron ore, thus generating an yearly revenue of over hundred million dollars.

Situated at Serra do Curral the ÁGUAS CLARAS ore deposit consists of a tabular lens of approximately 3 km long with a reserve of 400 million tons.

Before commencing its mining activities MBR adopted precautionary measures to avoid the dangers of pollution and problems relating to the environment. The Company adopted as a preliminary measure the construction of a water dam for the washing of the ore so that the material in suspension is retained, its effluent being clean and therefore not polluting the valley where the ore deposit is located.

The necessary access roads for the ore haulage by heavy off-the-roads trucks were built observing the preservation of the forest land and the local wild life. Before commencing the mine work a complete sewerage system was built in the mining facilities at Serra do Curral. Worried by the perspectives of heavy traffic in the access highways to Belo Horizonte, MBR entered in an agreement with Rede Ferroviária Federal S.A. for the haulage of the ore. The works of RFF were partly financed by a World Bank loan of 46 million dollars; 34 million dollars from Eximbank and the equivalent of 60 million dollars by the Federal Government for the rehabilitation of the trackage, acquisition of rolling stock, substitution of bridges and construction of the ÁGUAS CLARAS spur linking the ore deposit to the municipality of Ibirité in an extension of 23 km, thus creating a traffic more direct of trains towards the Sepetiba Terminal.

At a distance of 640 km from Belo Horizonte, at the Sepetiba bay, the same precautionary measures were taken by MBR to build a marine terminal for the loading of the ore. Located in the Guaíba Island, near the municipality of Mangaratiba in the state of Rio de Janeiro, this Terminal was built for the loading of iron ore into vessels of up to 300,000 tons of cargo at an hourly rate of 7,000 tons. On the sea side, RFF and MBR in order to avoid a congestion of suburban traffic of trains serving Rio de Janeiro, built a new cut-off, Japeri/Brisa-Mar, with an extension of 32 km, avoiding that trains of 125 ore cars would create any problems for the region.

THESE ore trains to reach the Terminal cross a railroad trestle built by MBR from Ponta do Santo Antônio, having a length of 1,705 meters oversea to reach Ponta da Cruz in the Guaíba Island, where the ore cars are unloaded at the hourly rate of 4,000 tons onto a stockyard with a capacity of 1.5 million tons. From this yard into the vessels the ore in conveyed by belts. This pier is 450 meters long and 22 meters wide, forming a platform of concrete supported by steel piling. It is located in deep waters and with the same orientation of the access channel.

ÁGUAS CLARAS is an open pit mine. Benches are 13 meters high and 8 cubic yard shovel is used for the extraction of the ore.

The production of the several types of ore is based on geological surveys and samplings. In this sequence the shovels are conveniently placed along the benches for loading the ore extracted into 100 ton truck, which haul its cargo to the primary crusher through circulation roads built with the width of 27 meters and the minimum possible slight slopes.

The primary crusher is the starting point of the treatment of ore. Its final process capacity is about 25 million tons per year.

After this primary crushing the ore is conveyed by belts and stacked in a surge pile of 80,000 tons, which has the objective of homogenizing and keeping the constant flow of the feeding to the treating plant.

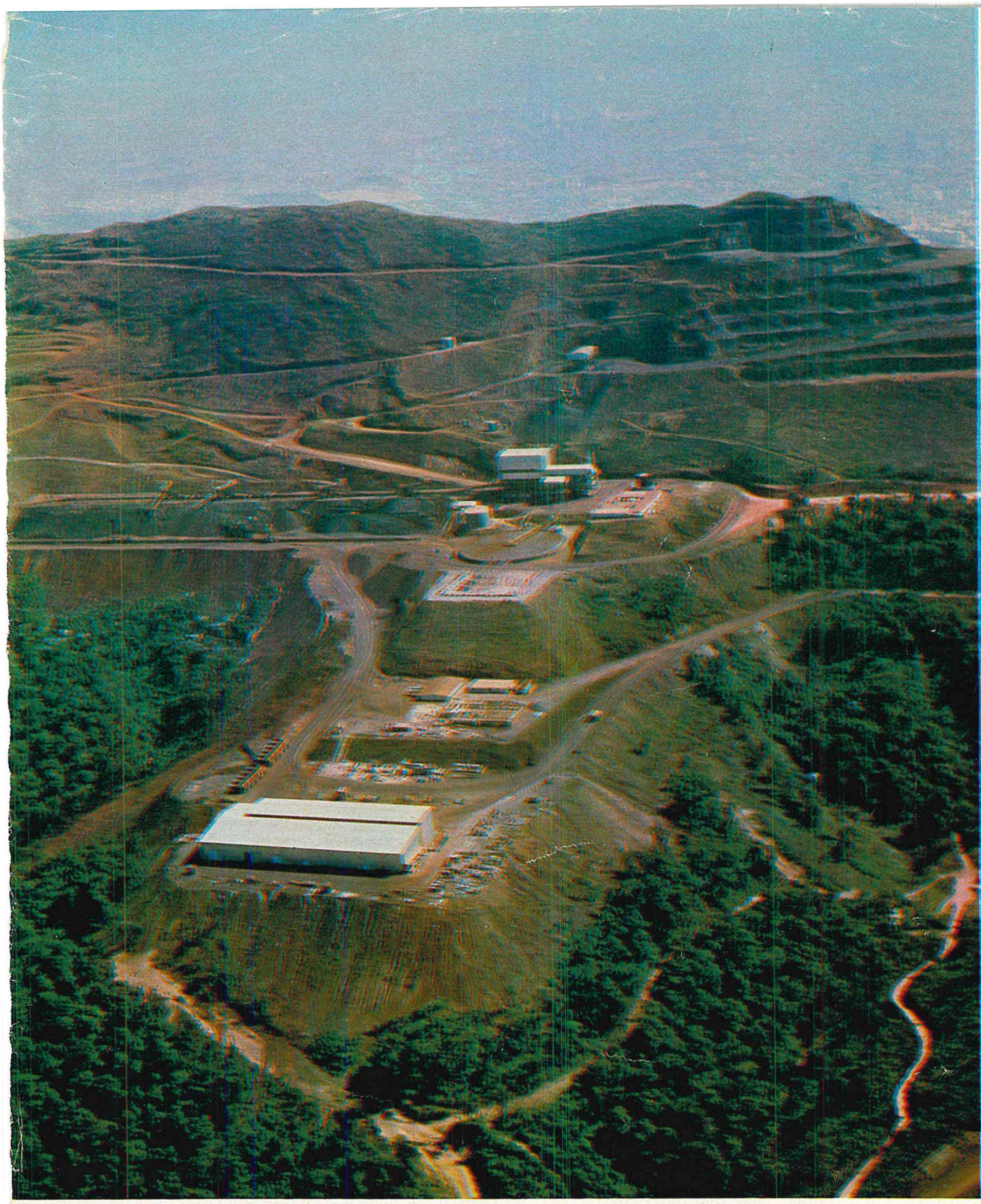
In the treating plant the ore is recrushed and wet classified by screens, hydroclassifiers, cyclones and filters. While this operation is performed, conveyor belts stack continually the different types of ore that leave the treating plant.

TO supply the world market ÁGUAS CLARAS has four different types of ore: coarse (1/2'' x 2''), pellet-ore (1/4'' x 1''), sinter fines, and pellet fines. Reclaimed from the stockpiles by a bucketwheel reclaimer with a capacity of 4,000 tons per hour the ore is fed into an ore car loading silo through a conveyor belt of 1,200 meter long.

This silo closes the operation of the ÁGUAS CLARAS MINE loading

The MBR — Minerações Brasileiras Reunidas S.A. *— adopted as a preliminary measure the construction of a water dam where the ore dust is retained to avoid pollution of the valley.*

The Aguas Cla
region. Below,



ras mine is surrounded by the forest of the ridge of mountains named Curral, but do not affect the ecologic equilibrium of that iron ore going out of the mine by railways, at low speed; and modern machines in the stockage yard.

into ore cars at the rate of 4,000 tons per hour with the trains running at the speed of 400 meters per hour, enough time for the full loading of each car. A track scale installed in the load out station records the official weight of the load.

When one considers that the ÁGUAS CLARAS PROJECT represented the total investment of the sizable amount equivalent of 400 million dollars, RFF investing about 140 million and MBR 260 million, and that the financing scheme took the sponsors to look abroad for 250 million dollars (80 millions for RFF and 170 millions for MBR) it is well understood the high interest with which the Government follows the development of this project, which will prompt MBR to export initially an amount of over 100 million dollars yearly.

THEORETICALLY, it can be said that the foreign debt could be repaid in over two years of operations. However, as the financings were contracted at terms varying from 10 to 15 years, the country will benefit from the surplus that ÁGUAS CLARAS operations will produce annually, contributing markedly for the national development.

Creating better conditions for the development of mineral resources of the State, MBR humanized the region, where it is installed, helping in the betterment of the level and absorption of idle labour. This besides increasing the generation of foreign exchange for the country by the export of ore with high iron content for which there is an available world market.

PARAÍBA /A PRI

GOVERNMENT OF PARAÍBA

A message to investors

Gentlemen,
Paraíba is one of the Brazilian states best suited for private investments. The State Government and the population of Paraíba are more than receptive to private investments; they create conditions most favorable for the development, through private initiative, of industries, agriculture and cattle raising, tourism, extraction and industrialization of minerals and foreign trade and commerce.

The state's territory embraces 56,000 square kilometers with ample possibilities for food production and agricultural raw materials, as well as cotton growing, sisal, sugar cane cultivation and pineapples, corn, beans and manioc. The state produces leather and leather products in quantities. Our subsoil is rich in mineral deposits of calcium, bentonite and clays for porcelain manufacture. Our cities are attractive and well laid out, offering pleasantly agreeable living conditions and convenient facilities for the installation of every type of industrial activity. Our tropical climate ensures and invites tourism at all seasons of the year, offering the visitors 12 months of sunshine, unlimited use and enjoyment of our beaches, folkloric attractions, outings into the inviting countryside, baroque religious art and many other attractions.

The Governement of the State of Paraíba offers to the investors multiple incentives, fiscal, financial supports and credit facilities, as well as technical assistance, physical installations and manpower training, ample public services, communications media, good roads and port facilities, adequate supply of water and electric power and all else which serves for the better functioning of a private enterprise.

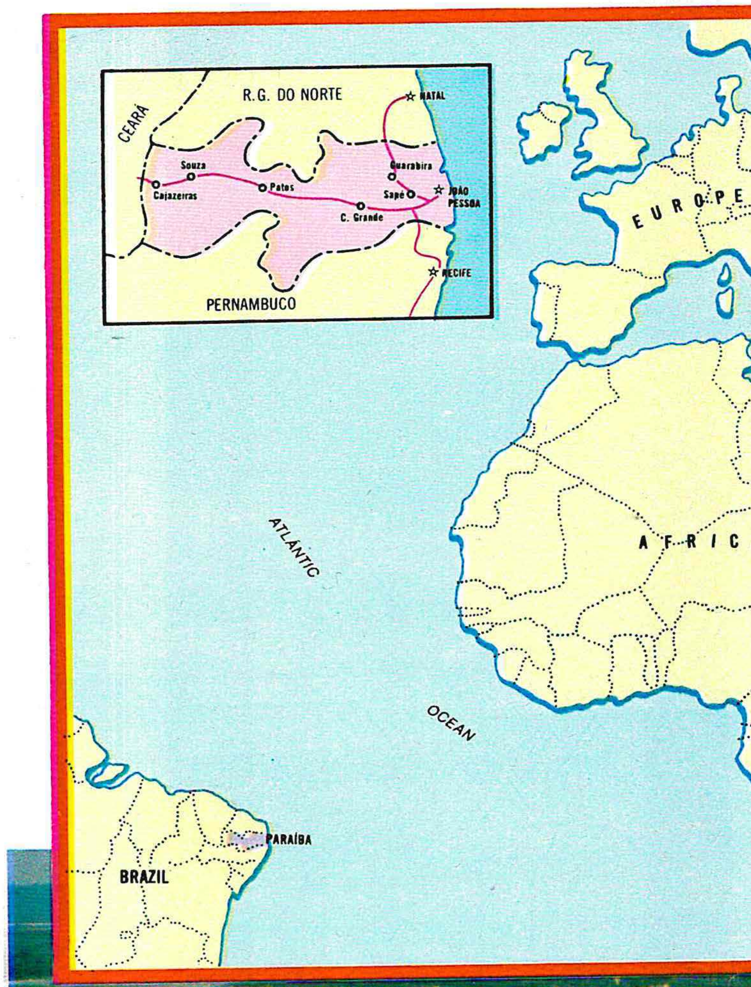
The Governor and our people would greatly appreciate and welcome your visit in order to verify our generous offers and would be proud to count on you as a potential investor.

Cordially yours,
Ivan Bichara Sobreira,
Governor

ONE of the nine Brazilian states comprising the Sudene (Superintendency for the Development of the North-East) area, the State of Paraíba is centrally situated amid the vast region's principal consumer markets. Measured in distance, it also is closest to African and European markets. With its highly developed infrastructure (good roads and abundance of electric power supply), a variety of rials locally available and multiple fiscal incentives offered by the state government, Paraíba offers exceptional opportunities and attractions to national and foreign investors.
Paraíba's geographically central position is further enhanced by a networkof important highways which intersect the state and provide transportation facilities at low cost. Two national higways, the BR-101 and BR-230 (the latter better known as the Trans-Amazon Highway) and BR-142 and BR-116 contribute a great deal to the state's economic development through a swift and convenient movement of its natural resources and goods. With an area of 56,372 square kilometers and a population of a 2.5 million, the State of Paraíba enjoys the best infrastructure of north-eastern Brazil from the point of view of per capita services. Divided into 171 municipalities (counties), each one of which, with a single exception, is a beneficiary of the Paulo Afonso hydro-electric complex, the entire state is provided with treated, safe water supply. João Pessoa, the state capital, leads all other north-eastern cities in basic public services.

THE STATE'S PRODUCTION.
Paraíba's agricultural production is based on sugar cane, cotton, sisal hemp, pineapples and cattle breeding. The state is Brazil's major supplier of pineapples, fourth in national cotton output, second in sisal production in addition to an impressive quantity of sugar cane cultivated in the state.

LARGE areas of Paraíba are under corn, beans, manioc and a great variety of tropical fruit. The state's coastal areas consist of valuable fishing grounds and whaling with industrialization facilities installed near the Port of Cabedelo; and lobster for export. Projects under way for the establishment of extensive agricultural activity astride the excellent roads and where electric power is easily available.

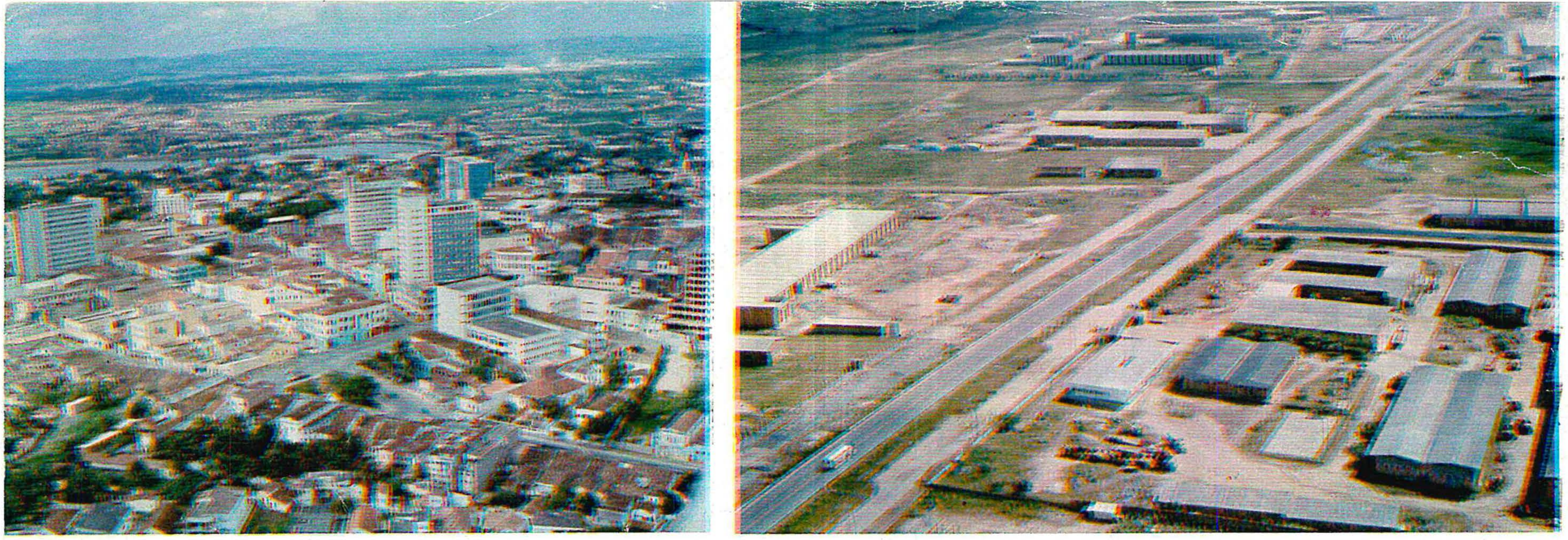


VILEGED COUNTRY

Situated in the *geographical center of the north-eastern region, João Pessoa, the state capital, is closest to the huge region's consumer markets.*

Paraíba today *has 123 industrial establishments, some with trademarks of national renown. Above, the Industrial District of João Pessoa.*

The famous Hotel Tambaú *(at left) offers to the tourists a first class service and is situated on one of the best beaches of the north-east. The state of Paraíba is the brazilian principal exporter of pineapples and is the principal producer of balertwine of sisal (above). At right, detail of a cotton industry. The state exports in a large scale cotton wares, cotton textiles, bath robes and towels. Multiple incentives are offered to the investors, such as fiscal and financial supports, credit facilities and technical assistance.*



Campina Grande *city is the hinterland's principal urban center and is growing up in a very dinamic way. Its Industrial District offer unrestricted electric power supply, plenty water and telephone services. The state government gives special incentives to the investors.*

A STATE THAT IS MORE THAN RECEPTIVE TO PRIVATE INVESTMENTS

In the field of minerals Paraíba has large deposits of calcium, silica and aluminum, kaoline and Brazil's largest deposits of bentonite.

THE STATE'S INDUSTRIAL ESTABLISHMENT ● After years of gradual changes and SUDENE's powerful presence, Paraíba presently is one of the north-eastern states most attentive — and receptive — to the widest range of industrial establishments, including electric appliances and electronics, metallurgy and mechanics, pulp and paper manufacture, naval construction and textile industries and clothing manufacture.

Two cities compete in offering the best urban and public utility services: João Pessoa, the state capital, and Campina Grande, the hinterland's urban center. Paraíba today has 123 industrial establishments, some with trademarks of national renown, such as the Matarazzo-Toray group, Santista, Bunge Born, Johnson and Johnson, Arbame-Mallory, Amazonas, Wallig, Simão, Fagan, Atma and scores of the other industries and their products.

The two industrial districts offer unrestricted electric power supply, plenty water and telephone services. This year the paving of the district's roads and streets will be completed, tree-lining them for shade and scenery. In addition to these infrastructure offers and facilities, the state government, in order to promote and stimulate small and medium industries in the two areas, is constructing multi-purpose factory buildings for rent or sale on instalment basis to potential industrial interests. These structures will be ready for mounting and assembly of required equipment. Thus an interested party will find an adequate building ready for occupancy, needing only the installation of machinery and equipment. The land lots in the two districts are being sold to business enterprises at the incredibly low price of one cruzeiro per square meter for cash or, optionally, to be paid for in a company's shares.

INCENTIVES — The following is a detailed recapitulation of incentives which Paraíba offers to industrial investors:

1 — **FISCAL INCENTIVES** — Total income tax exemption for industries without the like or similar nature in the area; fifty per cent reduction of income tax for establishment of industries similar to those already existing.

OTHER EXEMPTIONS FOR SIMILAR INDUSTRIES — Up to 60 per cent reduction in excise duties; tax exemption on imported equipment; excise tax and export duty exemption on manufactured goods.

2 — **FINANCIAL SUPPORTS** — Up to 50 per cent of investments through official banks and the Bank of the State of Paraíba for small and medium enterprises on the basis of loans for 8 years at a total annual cost of 16 per cent. The state's extensive financial facilities consist of 87 banks and finance companies.

3 — **PHYSICAL STRUCTURE INCENTIVES** — Availability of building specially constructed with floor spaces of up to 1,000 square meters, ready for immediate occupancy either on rent basis or for sale against a company's stock participation. Industrial locations astride National Highway BR-101 in João Pessoa, complete with infrastructure services and utilities, offer excellent conditions for the establishment of industries.

The Campina Grande industrial zone, traversed by BR-104 and the Federal Railroad system and with plentiful supply of water, electric power and sanitary (sewerage) and communications installed, offers equally attractive opportunities and incentives for the establishment of new industries.

4 — **TECHNICAL INCENTIVES** — Elaboration of projects and subsidiary cost requirements; feasibility and market studies; orientation and counseling aids during the implementation of a project; assistance in presentation of a project for SUDENE evaluation and approval, as well as to financial institutions; training of manpower at all levels.

5 — **AGREEABLE SURROUNDINGS** — Both João Pessoa and Campina Grande are cities with populations in excess of 200,000, with agreeable climatic conditions, excellent sanitary installations and people widely known for their cordiality. The two cities have five TV channels, good university campuses, social amenities and hotels on par with international standards, excellent living conditions and housing available at low rents. João Pessoa enjoys a year-round blissfully pleasant summer weather.

MANUFACTURING FEATURES — The State of Paraíba has always been inclined toward international markets. From an exporter of raw materials, the state has accepted and now actively participates in the national challenge of conquering foreign markets with manufactured goods. At present Paraíba is the principal producer of baler-twine with the annual exports of 20 million kilos, representing US$ 23 million plus in foreign exchange for Brazil. Additionally, large scale exports include cement, cotton wares, tanned cattle hides, whale skins, a variety of fruit juices, cotton textiles, bath robes and towels, sisal mats and carpets etc. As Brazil's principal exporter of pineapples in their natural state, Paraíba is presently developing an extensive cultivation of "Smooth-Cayenne" brand of pineapple for industrialized processing with view to conquering new markets, especially foreign markets.

THE PORT OF CABEDELO — Paraíba's exportable goods flow through the Port of Cabedelo, well equipped for rapid loading and unloading and warehousing facilities for general cargo and frozen products. It also has a special terminal to receive liquid fuels and petroleum byproducts. The port is 18 kilometers distant from João Pessoa by BR-230 which also serves as the starting point of the Trans-Amazon Highway, intersected by BR-101 at the major concentration of local industry. Agencies of the principal shipping lines of the world are installed in João Pessoa, assisting exporters in respect of maritime routes and shipping and trans-shipping facilities. Air cargo, as an alternative, may be received at or dispatched from Recife, only 110 kilometers away from João Pessoa.

Banking services to assist exporters with exchange problems and to extend credit to manufacturers and exporters are being efficiently handled by two agencies of the Export Department of the Bank of Brazil, and the Exchange Departments of the Bank of the State of Paraíba, the latter also offering innumerable other services to the state's exporters.

Promotion of exports from Paraíba is ably pursued by "PROMOEXPORT", an organization linked to and being an integral part of the regional system for the promotion of exports, aiding and counseling exporters and producers aimed at conquering new markets.

AIDS TO PRODUCTIVE ACTIVITIES — The Government of the State of Paraíba has established multiple forms of assistance to the state's productive activities. This strategy conforms to the government's development objectives under the Second National Development Plan (1975-1979) and find its major expression in aiding the state's industrialization process, rural production and tourism, both national and international.

GENERAL INFORMATION ABOUT PARAÍBA — The responsibility for attracting and direction industrialization of the State of Paraíba rests with the Company for the Industrialization of Paraíba (CINEP) which is subordinated to the state's Secretariat of Industry and Commerce. CINEP's address is as follows: Avenida Capitão José Pessoa, 85 — PO BOX 137 — CEP 58.000 — **João Pessoa** — PB

São Paulo Office: Rua Xavier de Toledo, 264 — conj. 127

Rio de Janeiro Office: Rua Debret, 23 — grupo 413/414

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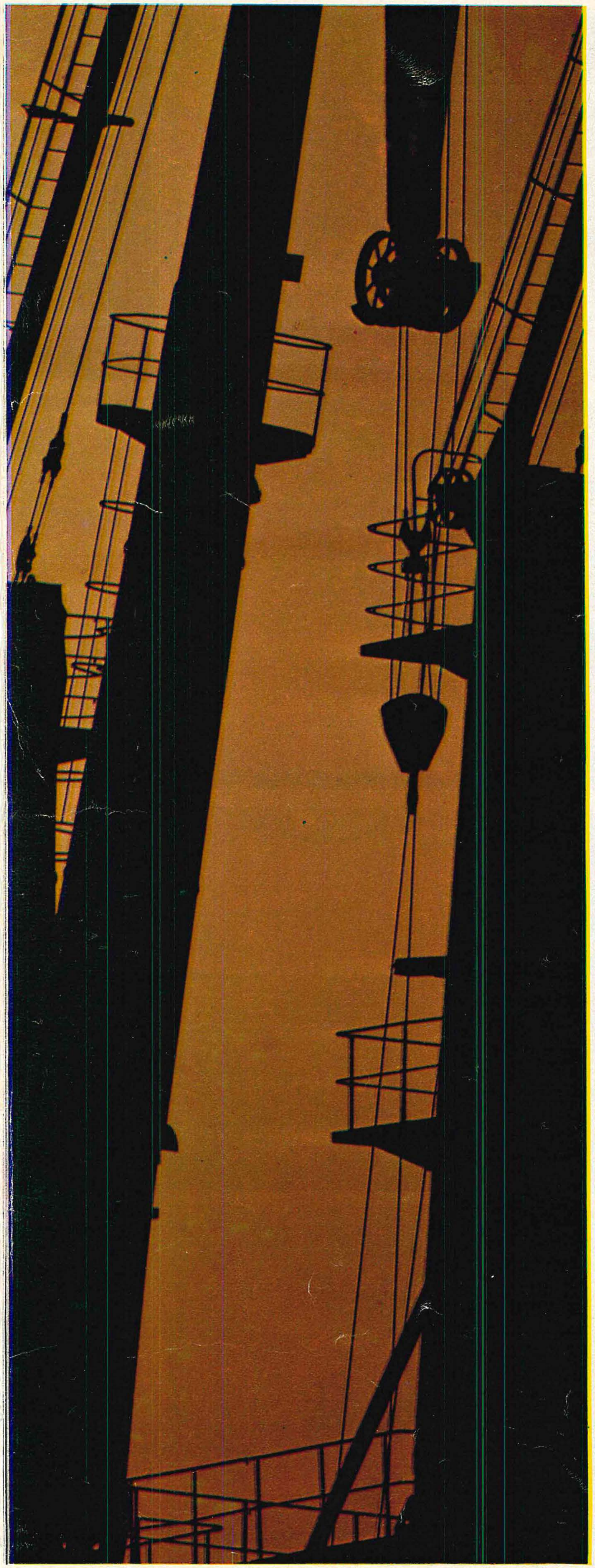


In the area of external trade, the Second National Development Plan puts special emphasis on exports of manufactured goods, minerals and non traditional agricultural products.

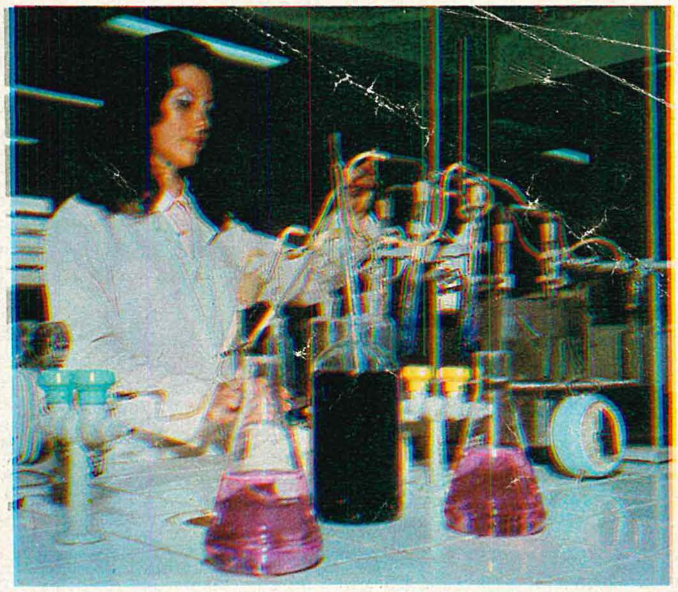
A greater volume of exports — always with view to diversifying exportable products — is one of the important objectives of the Second National Development Plan. Consequently, Brazil's external economic strategy will be influenced, on one hand, by challenges posed by the international situation — oil, basic inputs, multilateral commercial negotiations — and, on the other hand, by integrating international economic factors with purely national demands and interests. Following this policy, the next few years will see the opening up of new avenues of exports of manufactured goods, simultaneously with greater emphasis on technological development at home, particularly in the field of nutrition. In addition to "traditional" exports (coffee, sugar, cacao, iron ore etc.) special attention will be paid to increasing manufactured goods requiring the technological application, such as computers, automobiles, buses and trucks, motors and other automotive components, agricultural equipment, road-building and hydro-electric machinery, tools, steel products, including prefabricated parts for the mounting of factories, watches and precision instruments.

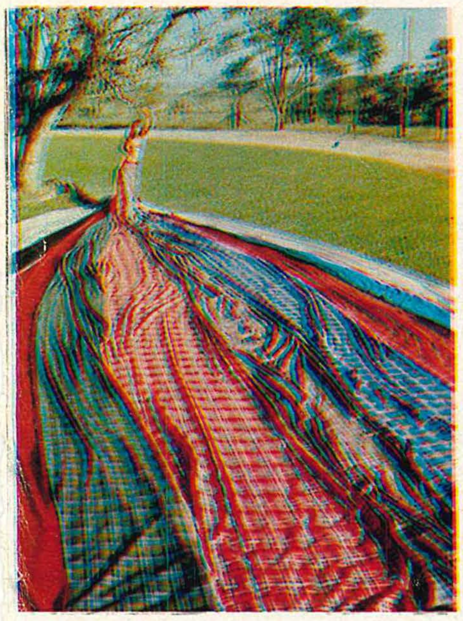
ACCORDING to the Second National Development Plan projections, the rate of growth of Brazilian exports should be about 20 per cent per year. On this basis, by the year 1979, Brazil's foreign trade should reach the impressive figure of 40 billion dollars. The Plan envisages, of course, not only a steadily growing volume of exports but also and reciprocally larger imports. In view of Brazil's increasingly important status on the world scene, it is hoped that the developed nations will abstain from creating restrictions which might gravely affect the developing countries. As the President affirmed when launching the Second National Development Plan: "Brazil will lose no opportunity in opening up new export fronts, even if it would require certain sacrifices at home." By "sacrifices" the President meant specifically less imports "in order to safeguard our balance of payments."
The Second National Development Plan plainly reaffirms Brazil's intent to pursue with utmost determination its foreign trade policy, as evidenced by the projected annual growth rate, embracing both exports and imports. The Plan also provides for eventualities, such as new restrictions being enforced by the industrialized nations against certain manufactured products. In such cases, Brazil will resort to exporting goods not on the restricted list and to areas of the world where demand exists for such goods. Diversification is the key answer also in regard to farm produce, even though the principal exportable commodities may continue to be soybean, meat, sugar and others.

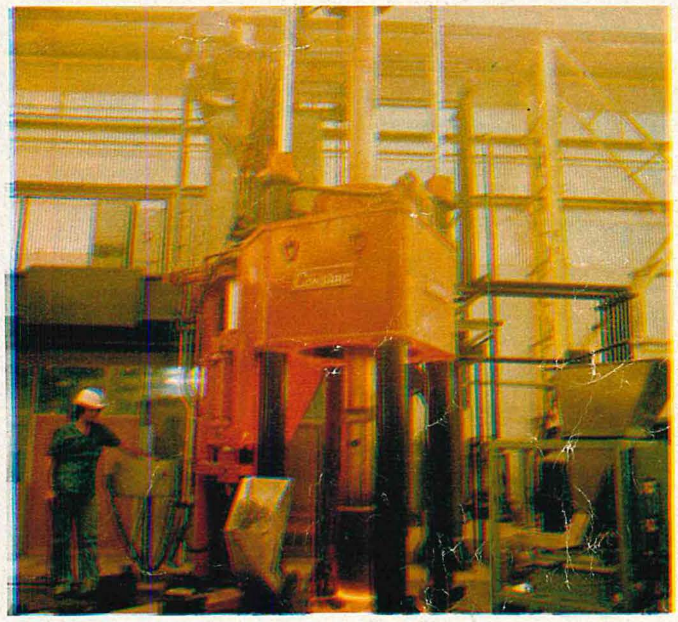
The Brazilian Government is intent on providing assistance to producers of such basic commodities as coffee, cocoa, sugar, cotton, soybean, etc., wich are our principal agricultural exports. This assistance is motivated by national interests: to maintain an adequate level of production and, in regard to exports, to maintain international price levels. In regard to manufactured goods, main efforts will be directed toward conquering export markets with new products, without letting go of traditional lines.
The Second National Development Plan, dealing with exports, considers the following points as of top priority:
a) The Government will continue with fiscal incentive, specifically in respect of lower export taxes on manufactured goods and, if necessary, on other commodities; the financing of exports through competent organs and every other assistance in the process of manufacture and marketing.
b) Simultaneously with the expansion and improvement of "export corridors" special attention will be paid to a program of establishing abroad of a promotional network to publicize and assist Brazilian exports.

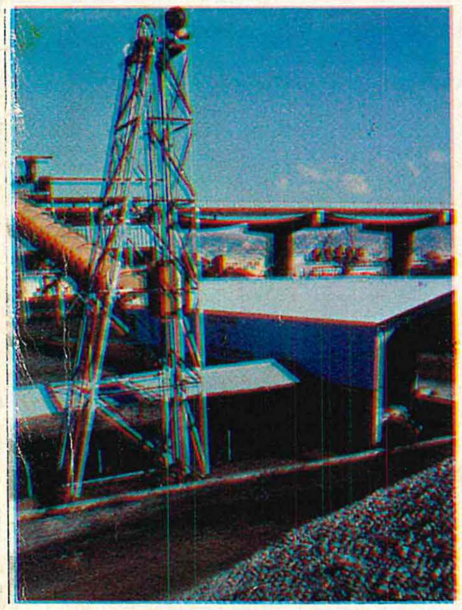
The Exporters' Club

Measures which are being adopted to secure a favorable balance of Brazil's foreign trade are aimed at compulsory reduction of imports. These measures are being enforced by certain governmental regulations such as a quota system and immediate settlement of foreign exchange contracts. The Brazilian exporters, however, would rather see the value of our exports gradually rising to reach a favorable balance. This then is the purpose for which the Club has been founded toward the end of 1971 and this is the theme dominating the Club's periodical meetings.
Uniting 80 of the most important exporters at luncheons attended by Government officials, specially invited guests and the press, the Exporters' Club has no intention of competing with such official institutions as the Federation of Industries; the idea is to merely form a businessmen's bloc which currently is responsible for 70 per cent of exports of manufactured goods. The principal characteristic of the Club's reunions is total informality. During the first luncheon meeting in 1971, among the special guests were Ministers Delfim Neto, Pratini de Morais, Dirceu Nogueira, and the Director of the Export Department of the Bank of Brasil. Other periodic meetings followed, generally once every two months, presided over by directors of various firms whose "mandates" last no longer than the intervals between meetings. Fourteen Club presidents have already been elected and succeeded each other, in accordance with the established procedure including directors of Eucatex, Brastemp, Estrela, Ibesa, Villares Steel, Metal Leve, Artex, Brasil Mills (Refinação de Milhos Brasil), Comabra, Duratex, Arcoflex, Moveis Lafer, Volkswagen and Confrio.





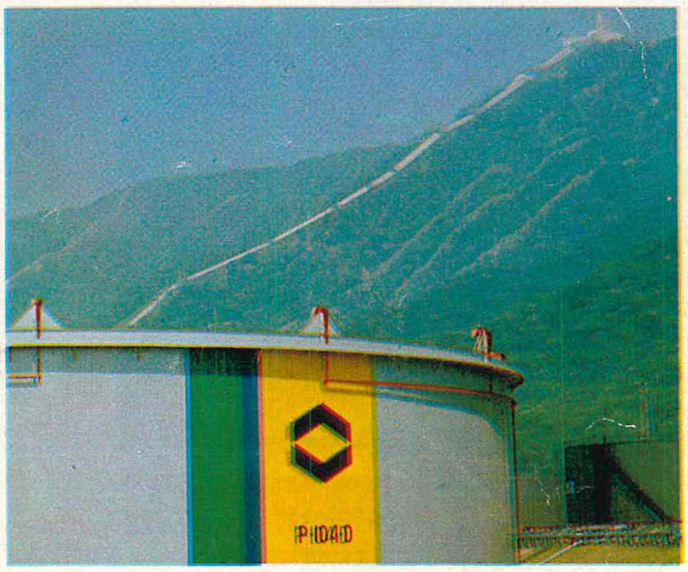


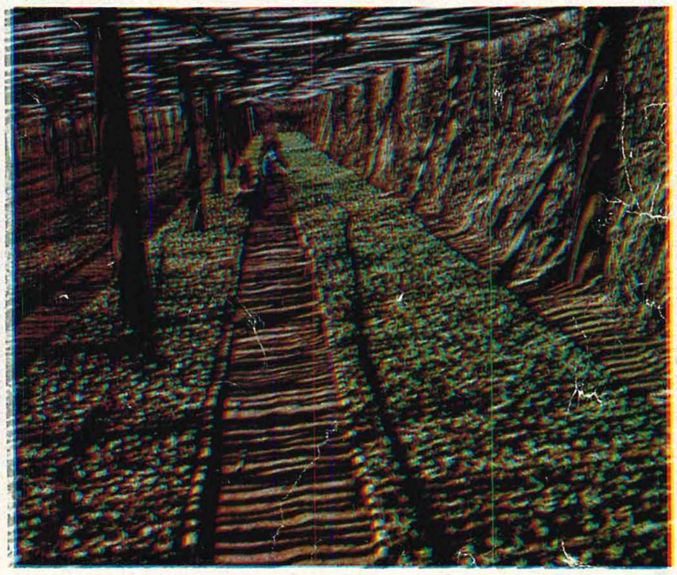


ELETROMETAL installed and put in operation end 1974 the most sophisticated existing electroslag furnace, coaxial, with a saturable care reactor as power supply, equipped with automatic controls making possible the conduction of the entire remelting process without interference of operators.

The electroslag process consists basically in the remelting through a bath of molten slag of a conventional ingot, degassed or not, called electrode in the process language.

Started the process, electric current flows through the electrode — slag bath — ingot series circuit, keeping the slag temperature above the melting point (liquidus) of the steel. The electrode end immersed in the hot slag bath melts in droplets, which traverse downwards the slag bath, where they are freed from inclusions by thermo-chemical reactions, and solidify below, under controlled conditions to form the ESR ingot.





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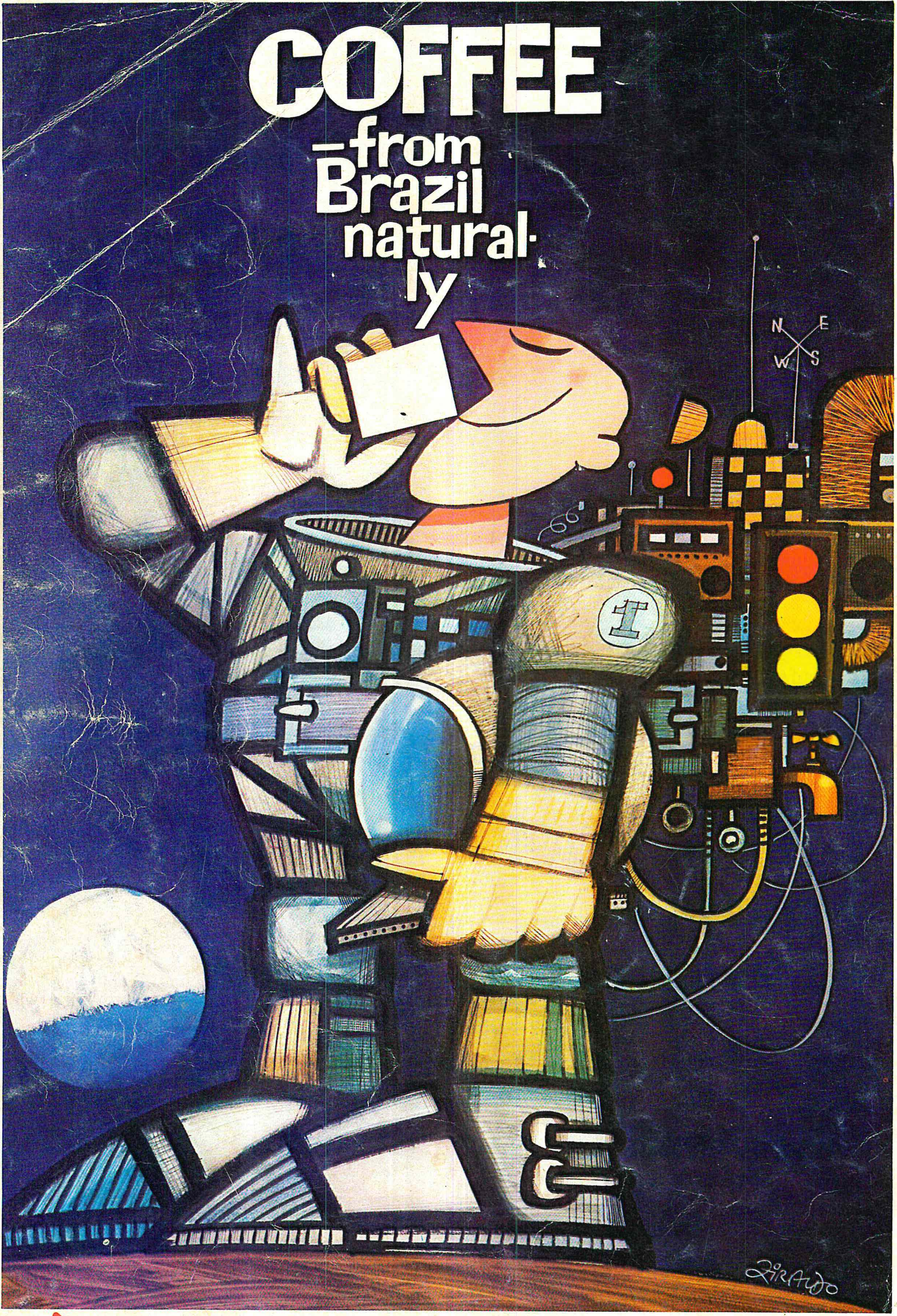
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